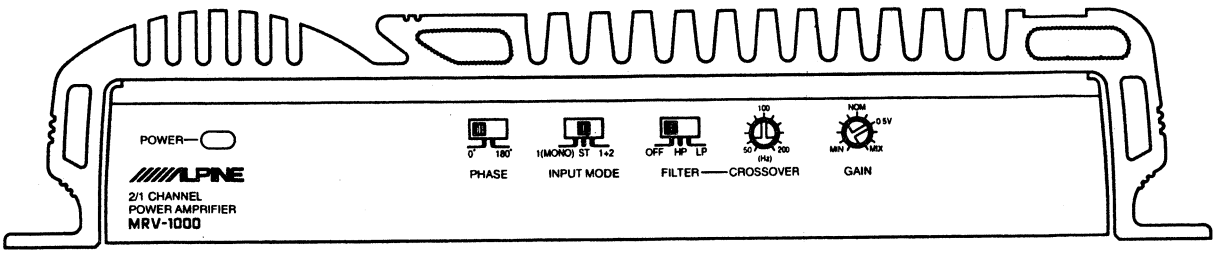
ALPINE®

SERVICE MANUAL

2/1 Channel Power Amplifier

- **The model described in this manual is developed from Model MRV-T300. For information that is not mentioned in this service manual, refer to the Service Manual • MRV-T300 (68E21806S01).**
- 当モデルはMRV-T300がベースモデルとなっております。このマニュアルは相違点のみ記載しておりますので、詳細については、サービスマニュアル・MRV-T300 (68E21806S01)を参照願います。



サービス費用区分	B
技 術 資 料 No.	PM-57-O

MRV-1000

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Refer to the Service Manual • MRV-T300 (68E21806S01).
MRV-T300 (68E21806S01)を参照願います。

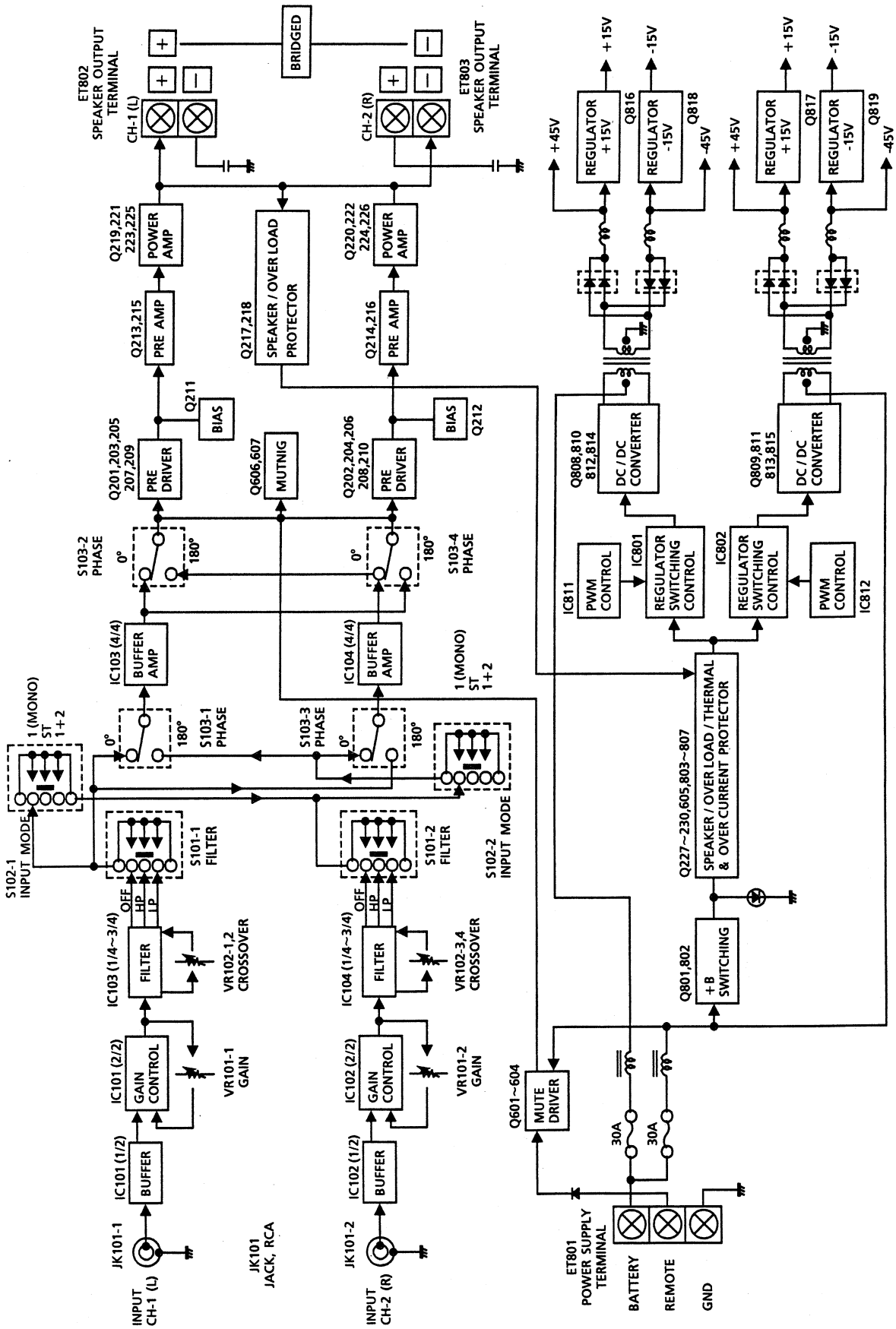
Additional Schematic Diagram inserted.

Specifications

Power Output (20Hz~20kHz,80kHz:L.P.F.) ..... 4ohm-2channel, 0.08% T.H.D. : 150W
4ohm-2channel, 0.08% T.H.D.,12V : 100W
2ohm-2channel, 0.8% T.H.D. : 230W
2ohm-2channel, 0.8% T.H.D., 12V : 160W
4ohm-1channel, BTL, 0.8% T.H.D.,MONO : 450W
4ohm-1channel, BTL, 0.8% T.H.D.,MONO, 12V : 320W
S / N Ratio (200W / ch / 4ohm, Output, Input shorted) 100dB
Input Sensitivity (200W / ch Output, GAIN Normal) ..... 1V±3dB
Input Impedance (RCA Input) ..... 20kohm±10%
Frequency Response (0±1dB, at 1kHz) ..... 20Hz~40kHz
Current Drain ..... No Signal : 2.5A
4ohm-2channel, 10% T.H.D. : 80A
2ohm-2channel, 10% T.H.D. : 115A
4ohm-1channel, BTL, 540W / ch Output : 120A
Residual Noise (4ohm-2channel, Input shorted) 3mA
Channel Separation (Input Shorted, at 1kHz) 55dB
Fuse Requirement ..... 30A × 2 (For Battery Line)
Power Source ..... DC14.4V (11~16V)
Semiconductors ..... 8 IC's, 48 Transistors, 19 Diodes, 9 Zener Diodes, 8 FET's
Dimensions (W×H×D) ..... 240×53×330 mm
Weight 4.2kg

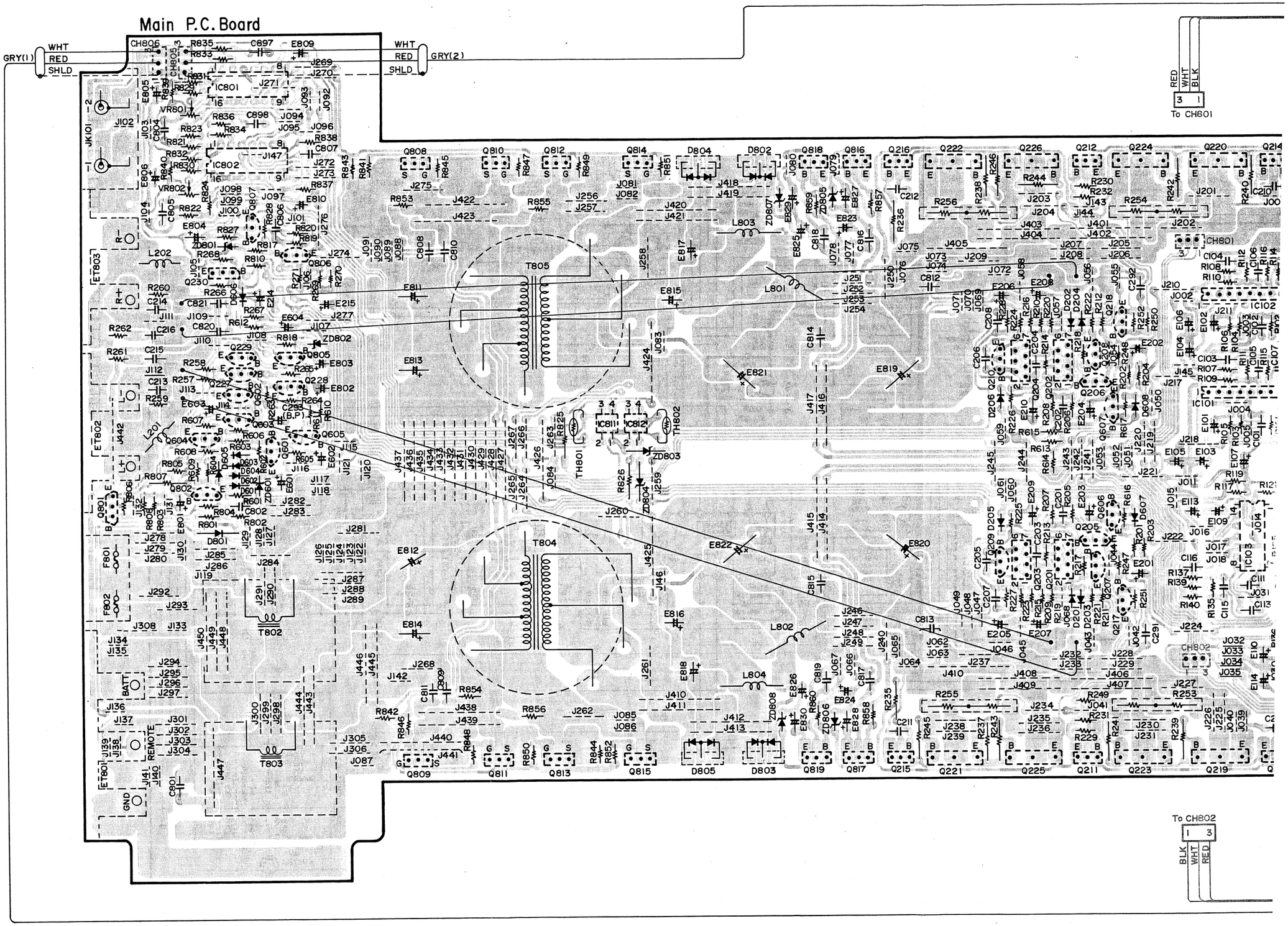
NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

Block Diagram



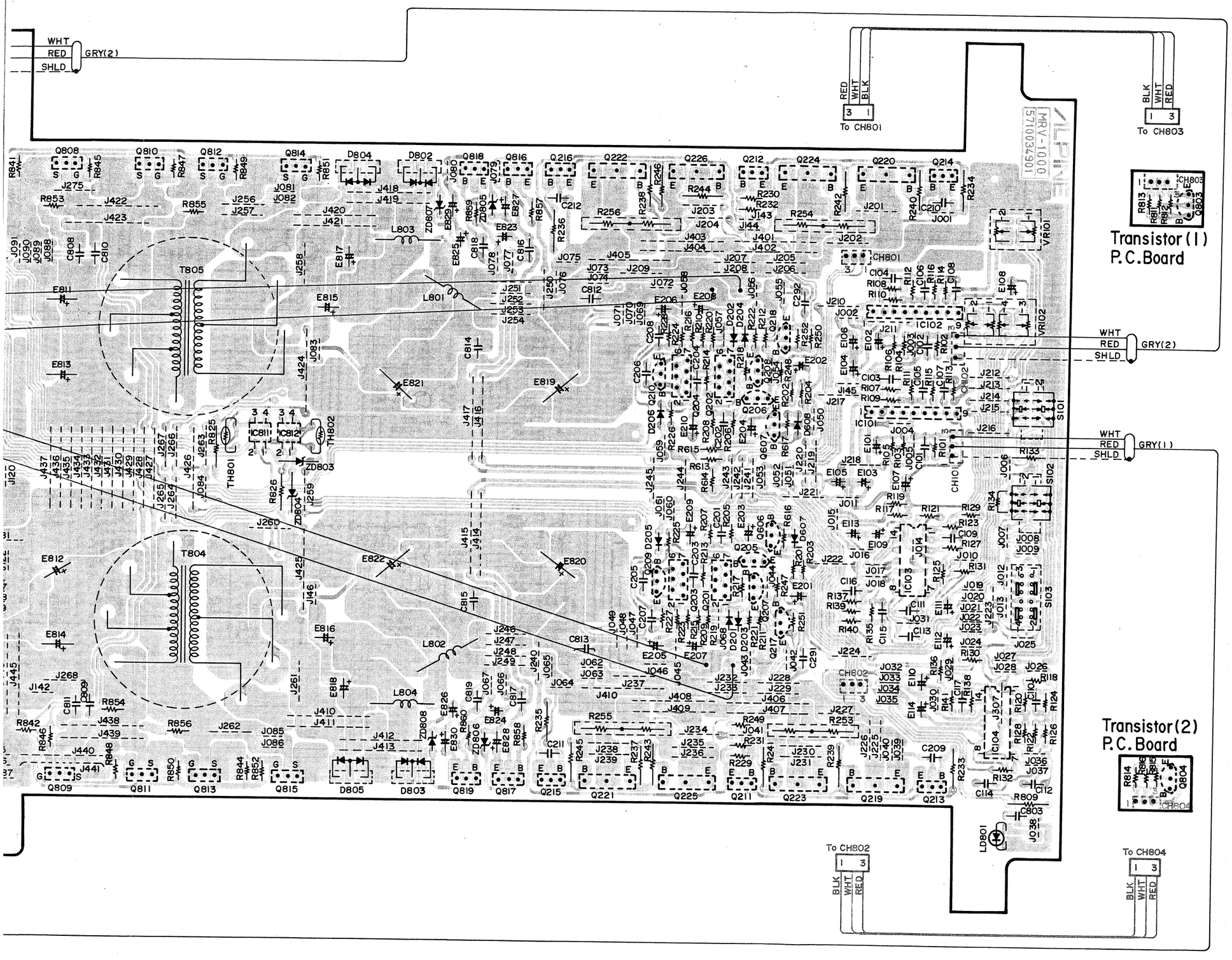
Parts Layout on P.C.Board and Wiring Diagram

All P.C.Board viewed from soldered side.



iagram

All P.C.Board viewed from soldered side.



Blue Pattern : Foil Side Pattern

D | E | F | G | H | I | J | K | L

Schematic Diagram

IC	IC101(1/2) IC102(1/2)	IC101(2/2) IC102(2/2)	IC103(1/4) IC104(1/4)	IC103(2/4) IC104(2/4)	IC103(3/4) IC104(3/4)	IC103(4/4) IC104(4/4) IC811 IC812		
Transistor (Q)	Q202 Q204	Q210 Q206 Q208 Q801 Q802	Q212 Q214 Q216 Q601	Q220 Q224 Q226 Q222 Q602 Q603 Q604	Q218 Q605 Q227 Q228 Q229	Q803 Q230 Q804	Q805 Q806 Q807	Q606 Q607	IC801 IC802 Q203 Q201	Q209 Q205 Q207 Q808 Q810 Q812 Q814 Q809 Q811 Q813 Q815	Q211 Q213

Main P.C.Board

JK101-1 INPUT CH-1 (L)

JK101-2 INPUT CH-2 (R)

JK101 JACK,RCA

BUFFER

GAIN CONTROL

FILTER

VR102: CROSSOVER

S101-1 FILTER SSAF123NA

S101-2 FILTER SSAF123NA

S102-1 INPUT MODE SSAF123NA

S102-2 INPUT MODE SSAF123NA

S103: PHASE SSSF142

BUFFER AMP

MUTING

PRE DRIVER

PRE AMP

POWER AMP

BIAS

SPEAKER/ OVER LOAD PROTECTOR

CHOKE TRANS. T802

CHOKE TRANS. T803

BATTERY

REMOTE

GND

POWER SUPPLY TERMINAL ET801

+B SWITCHING

MUTE DRIVER

Transistor (1) P.C.Board

Transistor (2) P.C.Board

PWM CONTROL

REGULATOR SWITCHING CONTROL

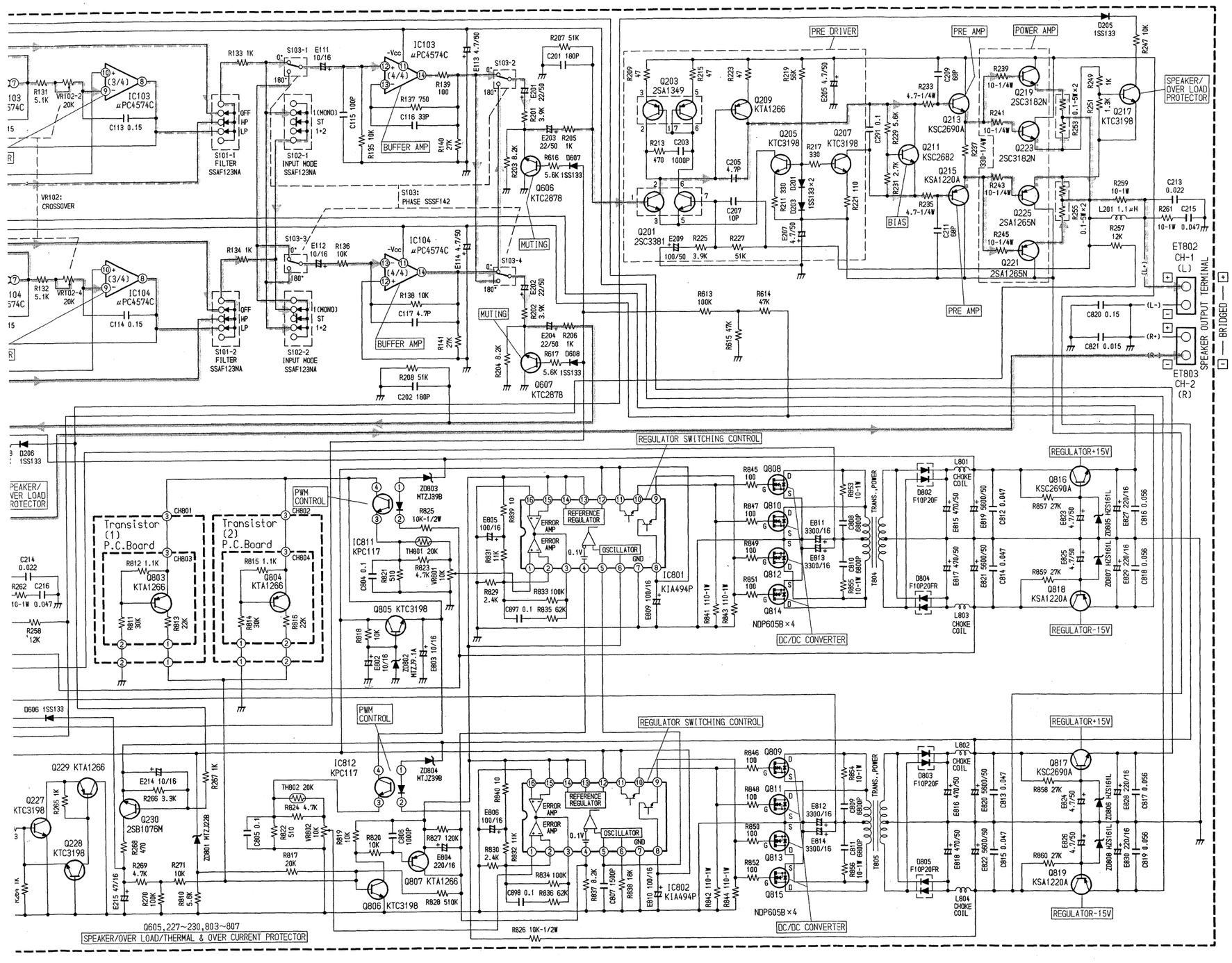
REFERENCE REGULATOR

ERROR AMP

OSCILLATOR

DC/DC CONVERTER

Q605,227~230,803~807 SPEAKER/OVER LOAD/THERMAL & OVER CURRENT PROTECTOR



IC101		IC102		IC103				IC104			
1	15.3V	1	15.2V	1	-2.1mV	8	-1.5mV	1	-2.6mV	8	-1.5mV
2	14mV	2	13.3mV	2	-0.2mV	9	0V	2	-0.2mV	9	0V
3	13.5mV	3	13.3mV	3	-0.8mV	10	0V	3	-0.8mV	10	0V
4	14mV	4	13.2mV	4	15.2V	11	-15.3V	4	15.6V	11	-15.1V
5	-15.7V	5	-15.2V	5	0V	12	2.6mV	5	0V	12	2.6mV
6	7.3mV	6	7.2mV	6	0.7mV	13	2.9mV	6	0.2mV	13	0V
7	7.6mV	7	7.6mV	7	-2.9mV	14	2.7mV	7	-3.1mV	14	-2.9mV
8	50mV	8	50.6mV								
9	NC	9	NC								

IC801, 802				IC811		IC812	
1	1V	9	0.6V	1	5.4V	1	5.7V
2	1V	10	0.6V	2	5.1V	2	5.4V
3	3.6V	11	14.3V	3	4.5V	3	4.4V
4	0.3V	12	14.3V	4	7.8V	4	7.8V
5	1.6V	13	5V				
6	3.7V	14	5V				
7	2.6mV	15	5V				
8	14.3V	16	0V				

	E	C	B		E	C	B
Q205	-44.7V	-0.8V	-44.3V	Q227	0V	44.4V	—
Q206	-44.8V	-0.7V	-44.2V	Q228	—	44.4V	0
Q207	-44.7V	-1.1V	-43.9V	Q229	44.4V	0V	44.4V
Q208	-44.8V	-1V	-43.9V	Q230	1V	44.8V	—
Q209	44.9V	1.1V	44.5V	Q601	6.5V	10mV	6.5V
Q210	45V	1V	44.4V	Q602	14.4V	2.8V	14.4V
Q211	-1.1V	1.1V	-0.45V	Q603	7mV	14.4V	0V
Q212	-1V	1V	-0.4V	Q604	0V	7mV	0.5V
Q213	0.5V	45.3V	1V	Q605	0V	14.4V	0.26V
Q214	0.5V	45.2V	1V	Q606	0.9V	0V	1V
Q215	-0.5V	-44.9V	-1V	Q607	0.9V	0V	1V
Q216	-0.5V	-44.8V	-1V	Q801	14.4V	14.4V	13.7V
Q217	0V	0.5V	0V	Q802	0V	1.9V	0.7V
Q218	0V	0.45V	0V	Q803	7.8V	0V	7.5V
Q219	0V	45.3V	0.45V	Q804	7.8V	0V	7.49V
Q220	0V	45.2V	0.45V	Q805	7.8V	14.3V	8.5V
Q221	0V	-44.9V	-0.46V	Q806	0V	8.5V	7.8V
Q222	0V	-44.8V	-0.46V	Q807	5V	0.3V	5V
Q223	0V	45.3V	0.45V	Q816	15.6V	45.3V	0.75V
Q224	0V	45.2V	0.45V	Q817	15.3V	45.4V	0.75V
Q225	0V	-44.9V	-0.5V	Q818	-15.1V	-45.4V	0.75V
Q226	0V	-44.8V	-0.5V	Q819	-15.4V	-45V	0.75V

	S	D	G
Q808	0V	14.4V	—
Q809	0V	14.4V	—
Q810	0V	14.4V	—
Q811	0V	14.4V	—
Q812	0V	14.4V	—
Q813	0V	14.4V	—
Q814	0V	14.4V	—
Q815	0V	14.4V	—

	1	2	3	4	5	6	7
Q201	-0.8V	44.4V	-0.8V	NC	-0.8V	44.5V	-0.1V
Q202	-0.7V	44.3V	-0.7V	NC	-0.7V	44.5V	-0.1V
Q203	44.5V	44.7V	4.5V	NC	4.5V	44.5V	44.5V
Q204	44.6V	44.4V	0.72V	NC	0.72V	44.6V	44.6V

Measuring Conditions

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Meter
3. Measuring Reference Point : Between Ground
4. Measuring Condition : No Signal Input

NOTE:
1. All resistance values are in ohms. K= 1,000 M= 1,000,000
2. All capacitance values are in microfarads. P= 1/1,000,000

Schematic Diagram

IC	IC101(1/2) IC102(1/2)	IC101(2/2) IC102(2/2)	IC103(1/4) IC104(1/4)	IC103(2/4) IC104(2/4)	IC103(3/4) IC104(3/4)	IC103(4/4) IC104(4/4) IC811 IC812	IC801 IC802
Transistor (Q)	Q202 Q204	Q210 Q206 Q801 Q802 Q208	Q212 Q214 Q216 Q601 Q220 Q224 Q226 Q222 Q602 Q603 Q604 Q218 Q605 Q227 Q228 Q229 Q803 Q230 Q804 Q805 Q806 Q807 Q606 Q607				Q203 Q201 Q209 Q205 Q808 Q810 Q812 Q814 Q809 Q811 Q813 Q815 Q207 Q211

Main P.C.Board

JK101-1 INPUT CH-1 (L)

JK101-2 INPUT CH-2 (R)

JK101 JACK,RCA

IC101 μPC4570HA

IC102 μPC4570HA

IC103 μPC4574C

IC104 μPC4574C

BUFFER

GAIN CONTROL

FILTER

VR102: CROSSOVER

S101-1 FILTER SSAF123NA

S102-1 INPUT MODE SSAF123NA

S103: PHASE SSSF142

BUFFER AMP

MUTING

PRE DRIVER

PRE AMP

POWER AMP

Q204 2SA1349

Q210 KTA1266

Q206 KTC3198

Q208 KTC3198

Q212 KSC2682

Q216 KSA1220A

Q202 2SC3381

Q220 2SC3182N

Q224 2SC3182N

Q226 2SA1265N

Q222 2SA1265N

Q218 KTC3198

SPEAKER/ OVER LOAD PROTECTOR

BIAS

CHOKE TRANS. T802

CHOKE TRANS. T803

F801 30A

F802 30A

BATTERY

REMOTE

GND

POWER SUPPLY TERMINAL ET801

+B SWITCHING

Q801 KSA1220A

Q802 KTC3198

MUTE DRIVER

Q601 KTA1266

Q602 KRA104M

Q603 KRC104M

Q604 KTC3198

Q605 KTC3198

Q227 KTC3198

Q229 KTA1266

Q228 KTC3198

Q230 2SB1076M

Q605,227~230,803~807 SPEAKER/OVER LOAD/THERMAL & OVER CURRENT PROTECTOR

Transistor (1) P.C.Board

Transistor (2) P.C.Board

Q803 KTA1266

Q804 KTA1266

PWM CONTROL

IC811 KPC117

IC812 KPC117

Q805 KTC3198

Q806 KTC3198

Q807 KTA1266

REGULATOR SWITCHING CONTROL

REFERENCE REGULATOR

ERROR AMP

OSCILLATOR

IC801 KIA494P

IC802 KIA494P

Q808 Q810 Q812 Q814 NDP605B×4

Q809 Q811 Q813 Q815 NDP605B×4

DC/DC CONVERTER

TRANS. POWER

Q201 2SC3381

Q203 2SA1349

Q209 KTA1266

Q205 KTC3198

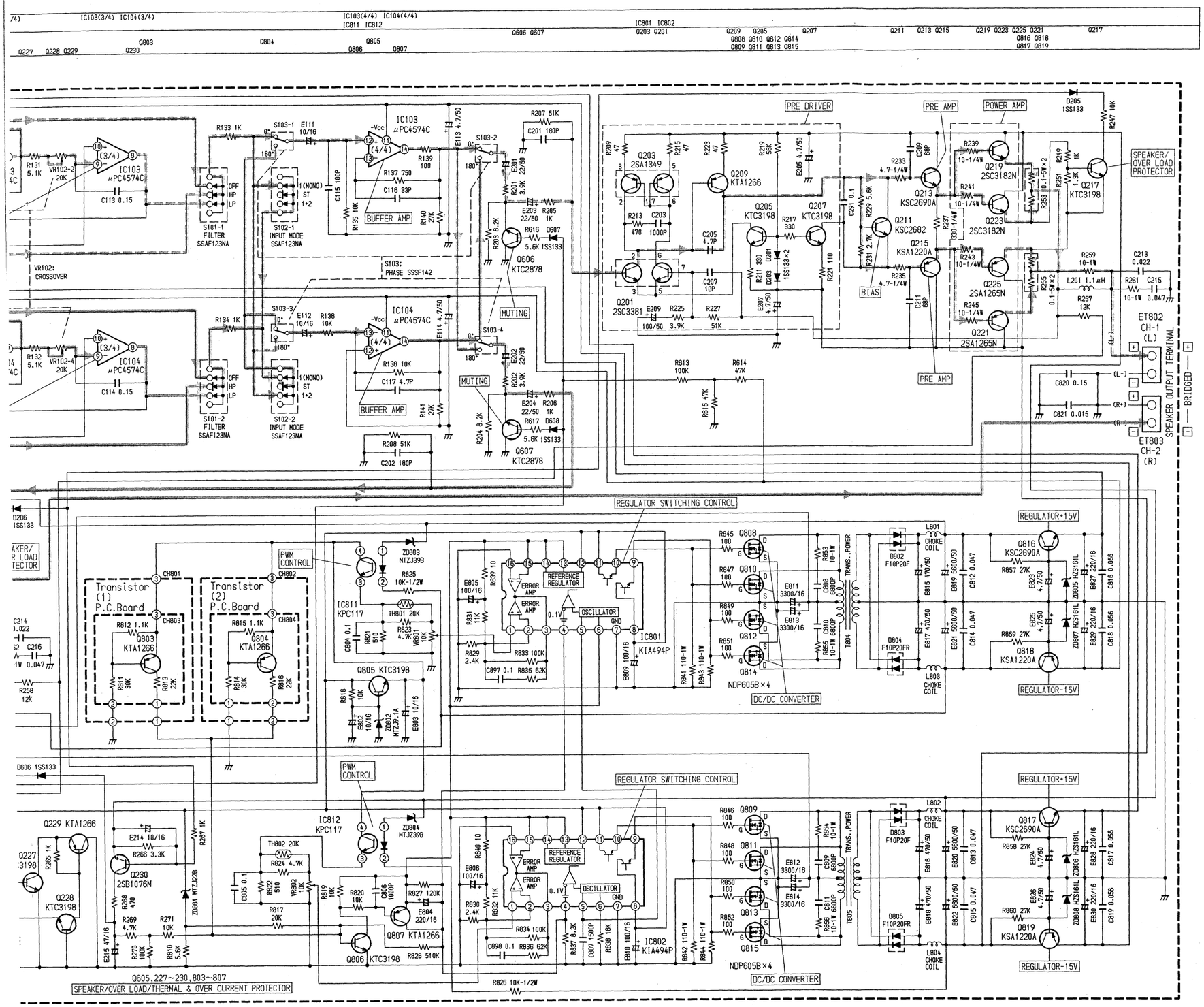
Q207 KTC3198

Q211 KSC2682

Q215 KSA1220

Q606 KTC2878

Q607 KTC2878



IC101	
1	15.3V
2	14mV
3	13.5mV
4	14mV
5	-15.7V
6	7.3mV
7	7.6mV
8	50mV
9	NC

IC102	
1	15.2V
2	13.3mV
3	13.3mV
4	13.2mV
5	-15.2V
6	7.2mV
7	7.6mV
8	50.6mV
9	NC

IC103			
1	-2.1mV	8	-1.5mV
2	-0.2mV	9	0V
3	-0.8mV	10	0V
4	15.2V	11	-15.3V
5	0V	12	2.6mV
6	0.7mV	13	2.9mV
7	-2.9mV	14	2.7mV

IC104			
1	-2.6mV	8	-1.5mV
2	-0.2mV	9	0V
3	-0.8mV	10	0V
4	15.6V	11	-15.1V
5	0V	12	2.6mV
6	0.2mV	13	0V
7	-3.1mV	14	-2.9mV

IC801, 802			
1	1V	9	0.6V
2	1V	10	0.6V
3	3.6V	11	14.3V
4	0.3V	12	14.3V
5	1.6V	13	5V
6	3.7V	14	5V
7	2.6mV	15	5V
8	14.3V	16	0V

IC811	
1	5.4V
2	5.1V
3	4.5V
4	7.8V

IC812	
1	5.7V
2	5.4V
3	4.4V
4	7.8V

	E	C	B		E	C	B
Q205	-44.7V	-0.8V	-44.3V	Q227	0V	44.4V	—
Q206	-44.8V	-0.7V	-44.2V	Q228	—	44.4V	0
Q207	-44.7V	-1.1V	-43.9V	Q229	44.4V	0V	44.4V
Q208	-44.8V	-1V	-43.9V	Q230	1V	44.8V	—
Q209	44.9V	1.1V	44.5V	Q601	6.5V	10mV	6.5V
Q210	45V	1V	44.4V	Q602	14.4V	2.8V	14.4V
Q211	-1.1V	1.1V	-0.45V	Q603	7mV	14.4V	0V
Q212	-1V	1V	-0.4V	Q604	0V	7mV	0.5V
Q213	0.5V	45.3V	1V	Q605	0V	14.4V	0.26V
Q214	0.5V	45.2V	1V	Q606	0.9V	0V	1V
Q215	-0.5V	-44.9V	-1V	Q607	0.9V	0V	1V
Q216	-0.5V	-44.8V	-1V	Q801	14.4V	14.4V	13.7V
Q217	0V	0.5V	0V	Q802	0V	1.9V	0.7V
Q218	0V	0.45V	0V	Q803	7.8V	0V	7.5V
Q219	0V	45.3V	0.45V	Q804	7.8V	0V	7.49V
Q220	0V	45.2V	0.45V	Q805	7.8V	14.3V	8.5V
Q221	0V	-44.9V	-0.46V	Q806	0V	8.5V	7.8V
Q222	0V	-44.8V	-0.46V	Q807	5V	0.3V	5V
Q223	0V	45.3V	0.45V	Q816	15.6V	45.3V	0.75V
Q224	0V	45.2V	0.45V	Q817	15.3V	45.4V	0.75V
Q225	0V	-44.9V	-0.5V	Q818	-15.1V	-45.4V	0.75V
Q226	0V	-44.8V	-0.5V	Q819	-15.4V	-45V	0.75V

	S	D	G
Q808	0V	14.4V	—
Q809	0V	14.4V	—
Q810	0V	14.4V	—
Q811	0V	14.4V	—
Q812	0V	14.4V	—
Q813	0V	14.4V	—
Q814	0V	14.4V	—
Q815	0V	14.4V	—

	1	2	3	4	5	6	7
Q201	-0.8V	44.4V	-0.8V	NC	-0.8V	44.5V	-0.1V
Q202	-0.7V	44.3V	-0.7V	NC	-0.7V	44.5V	-0.1V
Q203	44.5V	44.7V	4.5V	NC	4.5V	44.5V	44.5V
Q204	44.6V	44.4V	0.72V	NC	0.72V	44.6V	44.6V

Measuring Conditions

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Meter
3. Measuring Reference Point : Between Ground
4. Measuring Condition : No Signal Input

NOTE:
1. All resistance values are in ohms. K= 1,000 M= 1,000,000
2. All capacitance values are in microfarads. P= 1/1,000,000

Electrical Parts List

Resistor : Carbon resistors under 1 / 4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μF = microfarads, pF = picofarads

Abbreviations

RES.=	Resistor	CAP.=	Capacitor
C.F.=	Carbon Film	ELY.=	Electrolytic
M.F.=	Metal Film	CER.=	Ceramic
M.O.=	Metal Oxide Film	MYL.=	Mylar
M.P.=	Metal Plate	TAN.=	Tantalum
TR.=	Transistor	POLY.=	Polystyrol
TRANS.=	Transformer	PP.=	Polypropylene
CP.=	Chip	PLT.=	Polyethylene
		PF.=	Polyester Film

Main P. C. Board

IC's

Symbol No.	Part No.	Description
IC101	51E22137S01	μPC4570HA
IC102	51E22137S01	μPC4570HA
IC103	51E22138S01	μPC4574C
IC104	51E22138S01	μPC4574C
IC801	51E20883S01	KIA494P
IC802	51E20883S01	KIA494P
IC811	51E22140S01	KPC117
IC812	51E22140S01	KPC117

Transistors

Symbol No.	Part No.	Description
Q201	48T71942F01	2SC3381
Q202	48T71942F01	2SC3381
Q203	48T72597F01	2SA1349
Q204	48T72597F01	2SA1349
Q205	48E09088S01	KTC3198
Q206	48E09088S01	KTC3198
Q207	48E09088S01	KTC3198
Q208	48E09088S01	KTC3198
Q209	48E09036S02	KTA1266
Q210	48E09036S02	KTA1266
Q211	48E08329S01	KSC2682
Q212	48E08329S01	KSC2682
Q213	48E10027S01	KSC2690A
Q214	48E10027S01	KSC2690A
Q215	48E05943S01	KSA1220A
Q216	48E05943S01	KSA1220A
Q217	48E09088S01	KTC3198
Q218	48E09088S01	KTC3198
Q219	48T58609F01	2SC3182N
Q220	48T58609F01	2SC3182N
Q221	48T58610F01	2SA1265N
Q222	48T58610F01	2SA1265N
Q223	48T58609F01	2SC3182N
Q224	48T58609F01	2SC3182N
Q225	48T58610F01	2SA1265N
Q226	48T58610F01	2SA1265N
Q227	48E09088S01	KTC3198
Q228	48E09088S01	KTC3198
Q229	48E09036S02	KTA1266
Q230	48E22139S01	2SB1076M
Q601	48E09036S02	KTA1266
Q602	48E10239S01	KRA104M
Q603	48E09035S02	KRC104M
Q604	48E09088S01	KTC3198
Q605	48E09088S01	KTC3198
Q606	48E08335S01	KTC2878
Q607	48E08335S01	KTC2878
Q801	48E05943S01	KSA1220A
Q802	48E09088S01	KTC3198
Q805	48E09088S01	KTC3198
Q806	48E09088S01	KTC3198
Q807	48E09036S02	KTA1266
Q808	48E20886S01	FET, NDP605B
Q809	48E20886S01	FET, NDP605B
Q810	48E20886S01	FET, NDP605B
Q811	48E20886S01	FET, NDP605B
Q812	48E20886S01	FET, NDP605B
Q813	48E20886S01	FET, NDP605B
Q814	48E20886S01	FET, NDP605B
Q815	48E20886S01	FET, NDP605B
Q816	48E10027S01	KSC2690A
Q817	48E10027S01	KSC2690A
Q818	48E05943S01	KSA1220A
Q819	48E05943S01	KSA1220A

Diodes

Symbol No.	Part No.	Description
D201	48T68828F01	1SS133
D202	48T68828F01	1SS133
D203	48T68828F01	1SS133
D204	48T68828F01	1SS133
D205	48T68828F01	1SS133
D206	48T68828F01	1SS133
D601	48T68828F01	1SS133
D602	48T68828F01	1SS133
D603	48T68828F01	1SS133
D604	48T68828F01	1SS133
D605	48T84052F01	11ES2
D606	48T68828F01	1SS133
D607	48T68828F01	1SS133
D608	48T68828F01	1SS133
D801	48E11440S01	RL103

Symbol No.	Part No.	Description
D802	48T65059W01	F10P20F
D803	48T65059W01	F10P20F
D804	48T65059W02	F10P20FR
D805	48T65059W02	F10P20FR
ZD601	48T45012W32	Zener, MTZJ6.8A
ZD801	48T45012W71	Zener, MTZJ22B
ZD802	48T45012W41	Zener, MTZJ9.1A
ZD803	48T45012W95	Zener, MTZJ39B
ZD804	48T45012W95	Zener, MTZJ39B
ZD805	48T83128F49	Zener, HZS16-1L
ZD806	48T83128F49	Zener, HZS16-1L
ZD807	48T83128F49	Zener, HZS16-1L
ZD808	48T83128F49	Zener, HZS16-1L
Switches		
S101	40E20895S01	SSAF123NA (FILTER)
S102	40E20895S01	SSAF123NA (INPUT MODE)
S103	40T94668F06	SSSF142 (PHASE)
Coils		
L201	24E06423S02	1.1μH
L202	24E06423S02	1.1μH
L801	25E20892S01	Choke
L802	25E20892S01	Choke
L803	25E20892S01	Choke
L804	25E20892S01	Choke
Thermistors		
TH801	48E22141S01	20K ohm
TH802	48E22141S01	20K ohm
LED / Transformers		
LD801	48E20888S01	LED, SLR54PG3 (GRN)
T802	25E20891S01	Choke
T803	25E20891S01	Choke
T804	25E22142S01	Trans., Power
T805	25E22142S01	Trans., Power

Symbol No.	Part No.	Description
Capacitors		
C101	08E20917S01	CER., 100pF
E101	23E08383S08	ELY., 10μF / 16V
C102	08E20917S01	CER., 100pF
E102	23E08383S08	ELY., 10μF / 16V
C103	21E06806S02	CER., 33pF
E103	23E22344S01	ELY., 4.7μF / 50V
C104	21E06806S02	CER., 33pF
E104	23E22344S01	ELY., 4.7μF / 50V
C105	21E06806S02	CER., 33pF
E105	23E22344S01	ELY., 4.7μF / 50V
C106	21E06806S02	CER., 33pF
E106	23E22344S01	ELY., 4.7μF / 50V
C107	08E20915S01	CER., 47pF
E107	23E20208S01	ELY., 47μF / 16V
C108	08E20915S01	CER., 47pF
E108	23E20208S01	ELY., 47μF / 16V
C109	08E20917S01	CER., 100pF
E109	23E22344S01	ELY., 4.7μF / 50V
C110	08E20917S01	CER., 100pF
E110	23E22344S01	ELY., 4.7μF / 50V
C111	08E07631S11	MYL., 0.15μF
E111	23E08383S08	ELY., 10μF / 16V
C112	08E07631S11	MYL., 0.15μF
E112	23E08383S08	ELY., 10μF / 16V
C113	08E07631S11	MYL., 0.15μF
E113	23E22344S01	ELY., 4.7μF / 50V
C114	08E07631S11	MYL., 0.15μF
E114	23E22344S01	ELY., 4.7μF / 50V
C115	08E20917S01	CER., 100pF
C116	21E06806S02	CER., 33pF
C117	08E20914S01	CER., 4.7pF
C201	08E20918S01	CER., 180pF
E201	23E08383S12	ELY., 22μF / 50V
C202	08E20918S01	CER., 180pF
E202	23E08383S12	ELY., 22μF / 50V
C203	21E06808S03	CER., 1000pF
E203	23E08383S12	ELY., 22μF / 50V
C204	21E06808S03	CER., 1000pF
E204	23E08383S12	ELY., 22μF / 50V
C205	08E20914S01	CER., 4.7pF
E205	23E22344S01	ELY., 4.7μF / 50V
C206	08E20914S01	CER., 4.7pF
E206	23E22344S01	ELY., 4.7μF / 50V
C207	08E20072S01	CER., 10pF
E207	23E22344S01	ELY., 4.7μF / 50V
C208	08E20072S01	CER., 10pF
E208	23E22344S01	ELY., 4.7μF / 50V
C209	08E20916S01	CER., 68pF
E209	23E22147S01	ELY., 100μF / 50V
C210	08E20916S01	CER., 68pF

Symbol No.	Part No.	Description
E210	23E22147S01	ELY., 100μF / 50V
C211	08E20916S01	CER., 68pF
C212	08E20916S01	CER., 68pF
C213	08E07631S10	MYL., 0.022μF
C214	08E07631S10	MYL., 0.022μF
E214	23E08383S08	ELY., 10μF / 16V
C215	08E07631S18	MYL., 0.047μF
E215	23E20208S01	ELY., 47μF / 16V
C216	08E07631S18	MYL., 0.047μF
C291	08E07631S08	MYL., 0.1μF
C292	08E07631S08	MYL., 0.1μF
C293	23E11142S01	ELY., (B.P) 100μF / 10V
E601	23E20210S01	ELY., 220μF / 16V
E602	23E08383S08	ELY., 10μF / 16V
E603	23E08383S08	ELY., 10μF / 16V
E604	23E08383S12	ELY., 22μF / 50V
C801	08E07631S11	MYL., 0.15μF
E801	23E20908S01	ELY., 3.3μF / 50V
C802	21E06808S03	CER., 1000pF
E802	23E08383S08	ELY., 10μF / 16V
C803	08E20918S01	CER., 180pF
E803	23E08383S08	ELY., 10μF / 16V
C804	08E20216S01	MYL., 0.01μF
E804	23E20210S01	ELY., 220μF / 16V
C805	08E20216S01	MYL., 0.01μF
E805	23E10238S01	ELY., 100μF / 16V
C806	21E06808S03	CER., 1000pF
E806	23E10238S01	ELY., 100μF / 16V
C807	08E07631S01	MYL., 1500pF
C808	08E20912S01	MYL., 6800pF
C809	08E20912S01	MYL., 6800pF
E809	23E10238S01	ELY., 100μF / 16V
C810	08E20912S01	MYL., 6800pF
E810	23E10238S01	ELY., 100μF / 16V
C811	08E20912S01	MYL., 6800pF
E811	23T65461W14	ELY., 3300μF / 16V
C812	08E07631S18	MYL., 0.047μF
E812	23T65461W14	ELY., 3300μF / 16V
C813	08E07631S18	MYL., 0.047μF
E813	23T65461W14	ELY., 3300μF / 16V
C814	08E07631S18	MYL., 0.047μF
E814	23T65461W14	ELY., 3300μF / 16V
C815	08E07631S18	MYL., 0.047μF
E815	23E22148S01	ELY., 470μF / 50V
C816	08E20913S01	MYL., 0.056μF
E816	23E22148S01	ELY., 470μF / 50V
C817	08E20913S01	MYL., 0.056μF
E817	23E22148S01	ELY., 470μF / 50V
C818	08E20913S01	MYL., 0.056μF
E818	23E22148S01	ELY., 470μF / 50V
C819	08E20913S01	MYL., 0.056μF
E819	23T75365W01	ELY., 5600μF / 50V

Symbol No.	Part No.	Description
C820	08E20217S01	MYL., 0.015μF
E820	23T75365W01	ELY., 5600μF / 50V
C821	08E20217S01	MYL., 0.015μF
E821	23T75365W01	ELY., 5600μF / 50V
E822	23T75365W01	ELY., 5600μF / 50V
E823	23E22344S01	ELY., 4.7μF / 50V
E824	23E22344S01	ELY., 4.7μF / 50V
E825	23E22344S01	ELY., 4.7μF / 50V
E826	23E22344S01	ELY., 4.7μF / 50V
E827	23E20210S01	ELY., 220μF / 16V
E828	23E20210S01	ELY., 220μF / 16V
E829	23E20210S01	ELY., 220μF / 16V
E830	23E20210S01	ELY., 220μF / 16V
C897	08E07631S08	MYL., 0.1μF
C898	08E07631S08	MYL., 0.1μF

Resistors

R253	06E22136S01	Plate, 0.1 ohm 5W × 2
R254	06E22136S01	Plate, 0.1 ohm 5W × 2
R255	06E22136S01	Plate, 0.1 ohm 5W × 2
R256	06E22136S01	Plate, 0.1 ohm 5W × 2
R259	06E20907S01	M.O., 10 ohm 1W
R260	06E20907S01	M.O., 10 ohm 1W
R261	06E20907S01	M.O., 10 ohm 1W
R262	06E20907S01	M.O., 10 ohm 1W
R825	06E22145S01	M.O., 10K ohm 1/2W
R826	06E22145S01	M.O., 10K ohm 1/2W
R841	06E22146S01	M.O., 110 ohm 1W
R842	06E22146S01	M.O., 110 ohm 1W
R843	06E22146S01	M.O., 110 ohm 1W
R844	06E22146S01	M.O., 110 ohm 1W
R853	06E20907S01	M.O., 10 ohm 1W
R854	06E20907S01	M.O., 10 ohm 1W
R855	06E20907S01	M.O., 10 ohm 1W
R856	06E20907S01	M.O., 10 ohm 1W
VR101	18E20880S01	Volume, 50K ohm × 2 (GAIN)
VR102	18E20879S01	Volume, 20K ohm × 4 (CROSSOVER)
VR801	18E20754S01	Variable, 10K ohm
VR802	18E20754S01	Variable, 10K ohm

Transistor (1) P. C. Board

Transistor

Q803	48E09036S02	KTA1266

Transistor (2) P. C. Board

Transistor

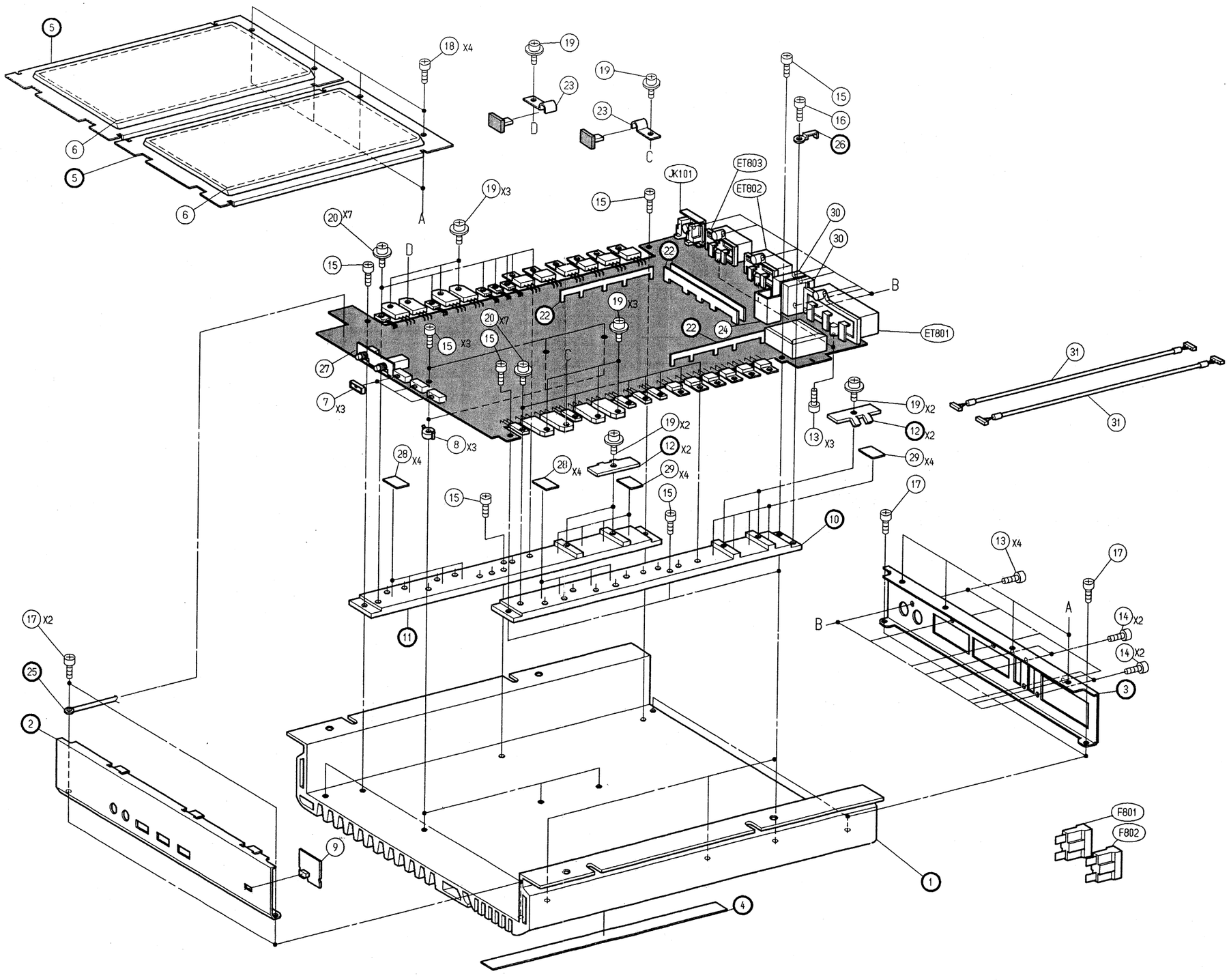
Q804	48E09036S02	KTA1266

Miscellaneous

ET801	29T75161W01	Terminal (Power Supply)
ET802	29T75161W02	Terminal (Speaker Output · CH-1)
ET803	29T75161W02	Terminal (Speaker Output · CH-2)
F801	65S58596F08	Fuse, Auto 30A (For Battery Line)
F802	65S58596F08	Fuse, Auto 30A (For Battery Line)
JK101	09E22143S01	Jack, RCA (Input · CH-1 / CH-2)

Symbol No.	Part No.	Description

Exploded View (Cabinet)



Cabinet Assembly Parts List

Note : No parts number on parts list are not supplied.

Symbol No.	Index	Part No.	Description
6	2-B	14E11444S01	Insulator, Sheet
7	3-C	15E11445S01	Cover, Switch
8	3-C	07E10333S01	Support, P.C.Board
9	5-C	61E20924S01	Lens, LED
13		03E09416S09	Screw, Tapping (M3×10)
14	4-G	03E09416S11	Screw, Tapping (M2×6)
15		03E09417S06	Screw, Tapping (M3×11)
16	1-E	03E20920S01	Screw, Tapping (M3×5)
17		03E20077S01	Screw, Tapping (M3×6)
18	1-C	03E20921S01	Screw, MCH (M3×5)
19		03E20922S01	Screw, Tapping (M3×11)
20		03E20923S01	Screw, Tapping (M3×9)
23	1-D	07E11459S01	Support, Frame
24	2-E	07E22584S01	Bracket, Battery
27	3-C	07E22585S01	Bracket, GND
28		14E11487S01	Insulator, Sheet-B
29		14E20977S01	Insulator, Sheet-A
30	2-E	15E20930S01	Holder, Fuse
31		01E22616S01	Assy., Shield Wire

Symbol No.	Index	Part No.	Description

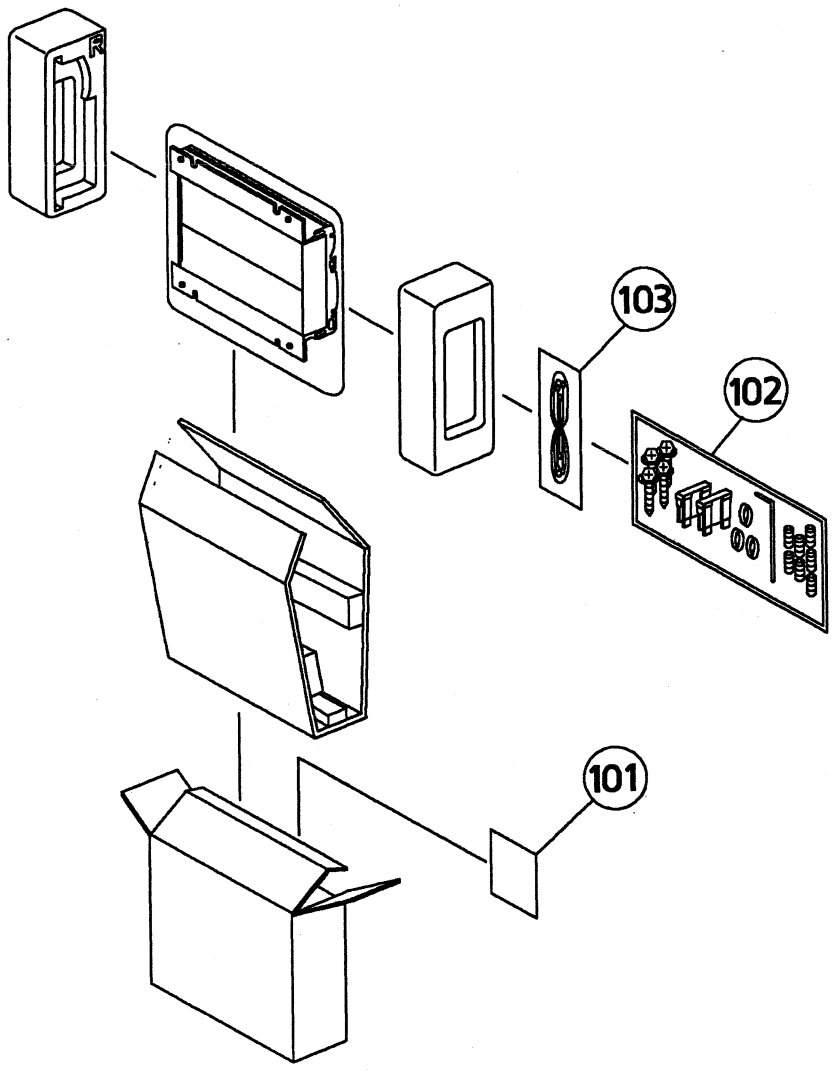
Packing Assembly Parts List

Symbol No.		Part No.	Description
○	101	68P61487W14	Owner's Manual
△	101	68P61487W14	Owner's Manual
△	or	68P61487W36	Owner's Manual
★	101	68P61487W13	Owner's Manual
	102-1	03E11447S01	Screw, Tapping (M4×14)
	102-2	28E20925S01	Housing, Rubber-A
	102-3	65S58596F08	Fuse, Auto 30A
	102-4	47E22594S01	Wrench, Hex.
	102-5	03E22655S01	Screw, Hex. (M5×7)
△	103-1	01E22150S01	Assy., Battery Wire

Symbol No.		Part No.	Description
★	103-1	01E22150S01	Assy., Battery Wire
△	103-2	01E22151S01	Assy., GND Wire
★	103-2	01E22151S01	Assy., GND Wire
△	103-3	01E20928S01	Assy., Remote Wire
★	103-3	01E20928S01	Assy., Remote Wire
★	103-4	01E22152S01	Assy., Speaker Wire (+)
★	103-5	01E22153S01	Assy., Speaker Wire (-)

Notes : ○ : For North American Model Only, △ : For General Foreign Model Only,
★ : For Japanese Model Only, Others : Common.

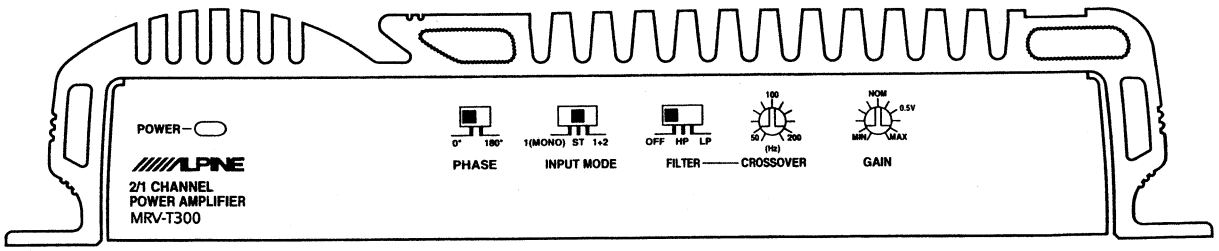
Packing Method View



ALPINE®

SERVICE MANUAL

2/1 Channel Power Amplifier



サービス費用区分	B
技 術 資 料 No.	PM-54-O

MRV-T300

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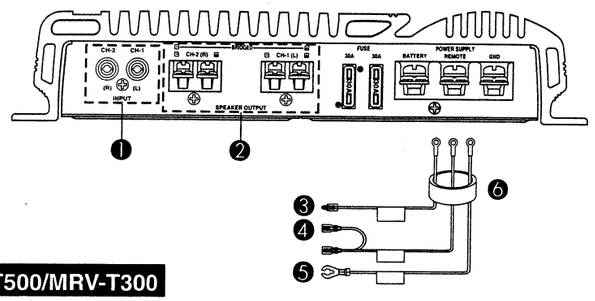
Additional Schematic Diagram inserted.

Specifications

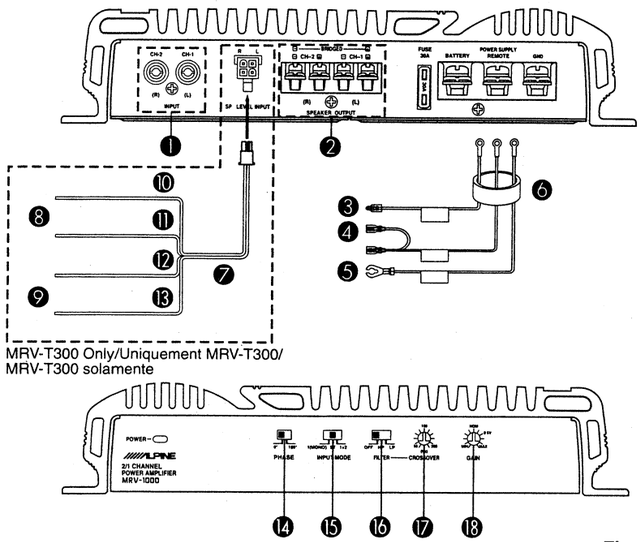
Power Output (20Hz~20kHz)	4ohm-2channel, 0.04% T.H.D. : 50W
	2ohm-2channel, 0.3% T.H.D. : 70W
	4ohm-1channel, 0.3% T.H.D., BTL : 150W
S / N Ratio (55W / ch / 4ohm, Input shorted)	98dB
Input Sensitivity (55W / ch Output)	LINE, CW : 0.2V±3dB
	LINE, Center : 1V±3dB
	LINE, CCW : 4V±3dB
	SP., CW : 0.4V±3dB
	SP., Center : 2V±3dB
	SP., CCW : 8V±3dB
Input Impedance	LINE : 11±2kohm
	SP. : 15±3ohm
Frequency Response (-1dB at 1kHz)	10Hz~50kHz
Current Drain	4ohm-2channel, 10% T.H.D. : 20A
	2ohm-2channel, 10% T.H.D. : 32A
	4ohm-1channel, BTL : 28A
Residual Noise (Input shorted)	1.2mV
Channel Separation (Input Shorted, at 1kHz)	55dB
Fuse Requirement	20A (For Battery Line)
Power Source	DC14.4V (11~16V)
Semiconductors	5 IC's, 38 Transistors, 14 Diodes, 4 Zener Diodes, 2 FET's
Dimensions (W×H×D)	240×53×150 mm
Weight	1.9kg

NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

MRV-1000



MRV-T500/MRV-T300



MRV-T300 Only/Uniquement MRV-T300/
MRV-T300 solamente

Fig. 2

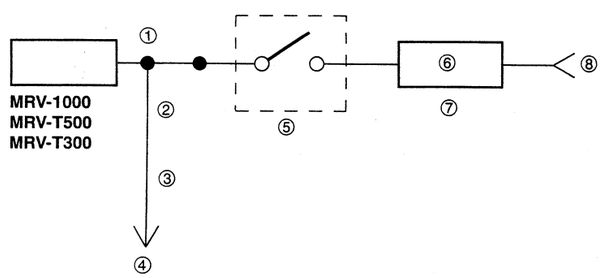


Fig. 3

CONNECTIONS (Fig. 2 – Fig. 8)

Before making connections, be sure to turn the power off to all audio components. Connect the yellow battery lead from the amp directly to the positive (+) terminal of the vehicle's battery. Do not connect this lead to the fuse block.

To prevent external noise from entering the audio system.

- Locate the unit and route the leads at least 10 cm away from the car harness.
- Keep the battery power leads as far away from other leads as possible.
- Connect the ground lead securely to a bare metal spot (remove the coating if necessary) of the car chassis.
- If you add an optional noise suppressor, connect it as far away from the unit as possible. Your Alpine dealer carries various Alpine noise suppressors, contact them for further information.
- Your Alpine dealer knows best about noise prevention measures so consult your dealer for further information.

❶ RCA Input Jacks
Connect these jacks to the line out leads on your head unit using RCA extension cables (sold separately). Be sure to observe correct channel connections; Left to Left and Right to Right.

❷ Speaker Output Terminals
The MRV-1000/MRV-T500/MRV-T300 has two sets of speaker outputs. Be sure to observe correct speaker output connections and phasing. In the stereo mode, connect the right speaker outputs to the right speaker and the left to left. Connect the positive output to the positive speaker terminal and the negative to negative.

In the bridged mode, connect the left positive to the positive terminal on the speaker and the right negative to the negative terminal of the speaker. Do not use the speaker (–) terminals as a common lead between the left and right channels. Do not connect this lead to the vehicle's chassis.
NOTE:
Do not connect speaker leads together or to chassis ground.

❸ Battery Lead (Yellow) (USA/CANADA Models: Sold Separately)
Be sure to add a ★ 60 amp fuse (or two 30A fuses in parallel) as close as possible to the battery's positive (+) terminal. This fuse will protect your vehicle's electrical system in case of a short circuit. If you need to extend this lead, the wire gauge should be 8 AWG or larger.
★ MRV-1000 ... 60 amp fuse (or two 30A fuses in parallel)
MRV-T500 ... 30 amp fuse
MRV-T300 ... 25 amp fuse

❹ Remote Turn-On Lead (Blue/White) (USA/CANADA Models: Sold Separately)
Connect this lead to the remote turn-on or power antenna (positive trigger, (+) 12V only) lead of your head unit.

❺ Ground Lead (Black) (USA/CANADA Models: Sold Separately)
Connect this lead securely to a clean, bare metal spot on the vehicle's chassis. Verify this point to be a true ground by checking for continuity between that point and the negative (–) terminal of the vehicle's battery. Ground all your audio components to the same point on the chassis to prevent ground loops.

❻ Insulation Tube

❼ Speaker Input Leads
These leads are input leads for use with head units not equipped with preamp outputs. When not using the RCA Line Input connectors, you should connect these wires to the speaker output leads of your head unit. The MRV-T300 accepts input from high power or standard power head units.

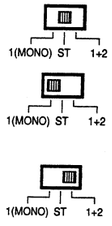
❽ Left Speaker
❾ Right Speaker
❿ White (+)
⓫ White/Black (–)
⓬ Gray (+)
⓭ Gray/Black (–)

MRV-1000 Only
In case of using the leads (speaker/power supply cord) purchased at the market, use the hexagon screws and the hexagon wrench included as the accessory to make connection easier. The wire size should be within AWG6 – AWG18.

SWITCH SETTINGS

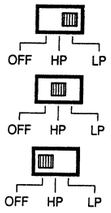
⓮ High-pass Output Phase Switch
Sets the phase of this output to 0° (in phase) or 180° (inverted) independently from the other output. Often, the subwoofer and midrange (or midrange and tweeter) may be acoustically out of phase with each other, meaning all the sound will cancel completely or partially. Also, 2nd order filters are naturally out-of-phase electrically. Always try the phase switch to establish the best setting before fine-tuning the crossover frequencies.

⓯ Input Mode Selector Switch



a) Set to the "ST" position (center) when the two channels are used in stereo. The CH-1 (or CH-2) input will output at the Speaker Output Terminal CH-1 (or CH-2).
b) Set to the "1 (MONO)" position when the two channels are used for one channel of a stereo bridged system. The CH-1 input is output from the Speaker Output Terminals CH-1(+) and CH-2 (–). The CH-2 input accepts no signal. (Refer to Fig. 6.)
c) Set to the "1 + 2" position when the two channels are used for a subwoofer system which uses the right channel and left channel signals summed. The CH-1 and CH-2 inputs are summed, then output from the Speaker Output Terminals CH-1(+) and CH-2 (–). (Refer to Fig. 5.)

⓰ Crossover Mode Selector Switch



a) Set to the "LP" position when the amplifier is used to drive a subwoofer. The frequencies above the crossover point will be attenuated at 12 dB/octave.
b) Set to the "HP" position when the amplifier is used to drive a tweeter/midrange system. The frequencies below the crossover point will be attenuated at 12 dB/octave.
c) Set to the "OFF" position when the amplifier will be used for driving full-range speakers. The full frequency bandwidth will be output to the speakers with no high or low frequency attenuation.

⓱ Crossover Frequency Adjustment Knob
Permits adjustment of the crossover frequency, by rotating the knob to select any frequency between 50 to 200 Hz as the crossover point.

⓲ Input Gain Adjustment Control
Set the MRV-1000/MRV-T500/MRV-T300 input gain knobs to the minimum (4V) position. Using a loud cassette or preferably a CD as a source, turn up the head unit volume until it distorts. Then, reduce the volume 1 step. You can then increase amplifier gain until the sound from the speakers becomes distorted.

Please check your head unit for the conditions listed below: (Fig. 3)
a. The head unit does not have a remote turn-on or power antenna lead.
b. The head unit's power antenna lead is activated only when the radio is on (turns off in the tape or CD Mode).
c. The head unit's power antenna lead is logic level output (+) 5V, negative trigger (grounding type), or cannot sustain (+) 12V when connected to other equipment in addition to the vehicle's power antenna. If any of the above conditions exist, the remote turn-on lead of your MRV-1000/MRV-T500/MRV-T300 must be connected to a switched power source (ignition) in the vehicle. Be sure to use a 3A fuse as close as possible to this ignition tap. Using this connection method, the MRV-1000/MRV-T500/MRV-T300 will turn on and stay on as long as the ignition switch is on.

If this is objectionable, a SPST (Single Pole, Single Throw) switch, in addition to the 3A fuse mentioned above, may be installed in-line on the MRV-1000/MRV-T500/MRV-T300 turn-on lead. This switch will then be used to turn on (and off) the MRV-1000/MRV-T500/MRV-T300. Therefore, the switch should be mounted so that is accessible by the driver. Make sure the switch is turned off when the vehicle is not running. Otherwise, the amplifier will remain on and drain the battery.
① Blue/White
② Power Antenna
③ Remote Turn-On Lead
④ To other Alpine components' Remote Turn-On Leads
⑤ SPST Switch (optional)
⑥ Fuse (3A)
⑦ As close as possible to the vehicle's ignition tap
⑧ Ignition Source

TYPICAL SYSTEM CONNECTIONS/CONNEXIONS TYPIQUES DU SYSTÈME/CONEXIONES TIPICAS DEL SISTEMA

[English]
- ⑲ Right Speaker
- ⑳ Left Speaker
- ③ Extension Cable (Sold Separately)
- ④ Head Unit with Pre-Amp Outputs
- ㉑ Speakers
- ㉒ Full-range Speakers
- ㉖ Tweeter/Midrange
- ㉗ Subwoofer

[Français]
- ⑲ Haut-parleur droit
- ⑳ Haut-parleur gauche
- ③ Câble de rallonge (vendu séparément)
- ④ Unité principale avec sorties de préamplificateur
- ㉑ Haut-parleurs
- ㉒ Haut-parleurs de large bande
- ㉖ Haut-parleur d'aigus/de gamme moyenne
- ㉗ Haut-parleur de sous-graves

[Español]
- ⑲ Altavoz derecho
- ⑳ Altavoz izquierdo
- ③ Cable de extensión (vendido separadamente)
- ④ Unidad principal con salidas de preamplificador
- ㉑ Altavoces
- ㉒ Altavoces de gama completa
- ㉖ Altavoz de agudos/tonos medios
- ㉗ Altavoz de frecuencias ultrabajas

2-Channel Stereo System/Système stéréo à 2 canaux/Sistema estéreo de 2 canales

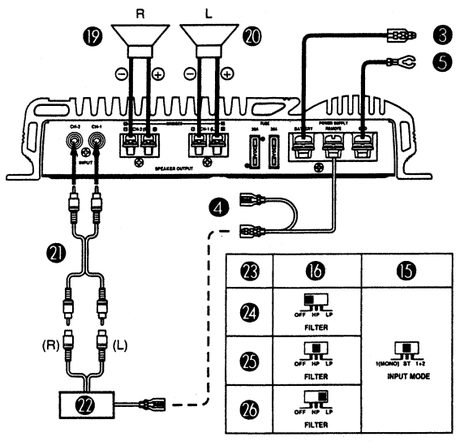


Fig. 4

Single Channel System/Système à canal unique/Sistema de canal único

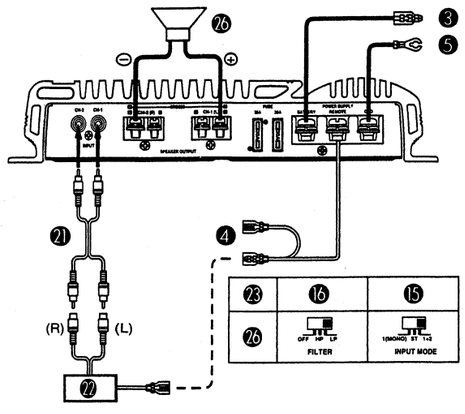


Fig. 5

Single Channel Stereo System/Système à canal unique stéréo/ Sistema estéreo de canal único

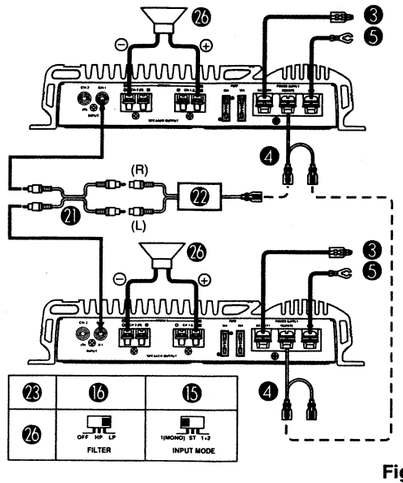


Fig. 6

Speaker Input Leads System/Système des conducteurs d'entrée de haut-parleur/Sistema de conductores de entrada de altavoz

MRV-T300 Only/Uniquement MRV-T300/MRV-T300 solamente

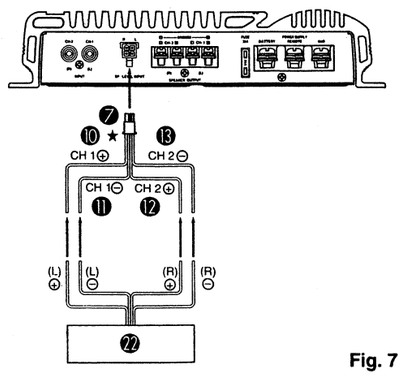


Fig. 7

Speaker Input Leads Stereo System/Système stéréo des conducteurs d'entrée de haut-parleur/Sistema estéreo de conductores de entrada de altavoz

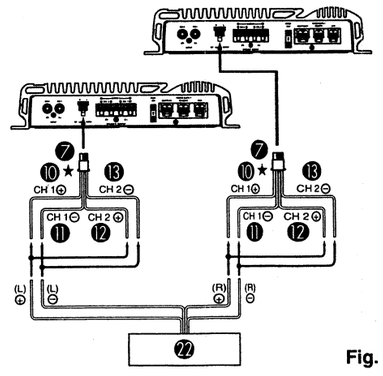


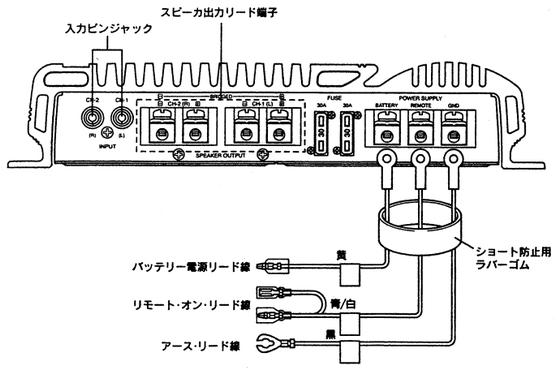
Fig. 8

★ Use either RCA line level or speaker level inputs. Do not connect both at the same time./Utiliser les entrées de niveau de ligne RCA ou de niveau de haut-parleur. Jamais les connecter à la fois./Utilice las entradas de nivel de altavoz o de nivel de línea RCA. No conecte las dos al mismo tiempo.

接　続

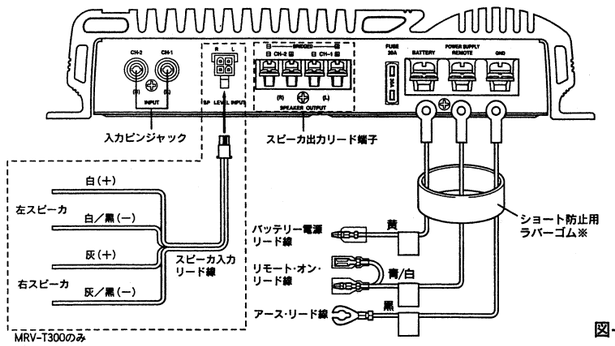
本機はパワーアンプですので音量、音質等はすべて、カセット･デッキやグラフィック･イコライザー等の接続側で調整をおこないます。
下記に従って各々のリード線を確実に接続してご使用ください。

MRV-1000



図−2

MRV-T500/MRV-T300



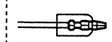
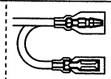
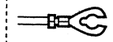
図−3

■スピーカ出力リード端子
本機の出力に合ったスピーカに⊕、⊖、L、Rを間違えないように接続します。スピーカ出力リード線の⊖端子は絶対に左･右共通使用や自動車のシャーシー･アースに落とすことは避けてください。

■ショート防止用ラバーゴム
隣接端子間のショート防止用のラバーゴムです。各々のリード線を接続する前にこのラバーゴムをリード線に通してから接続した後、スピーカ出力端子および電源端子に覆いかぶせてください。

■MRV-1000のみ
付属のリード線を使用せず市販のリード線（スピーカ／電源コード）を使用する場合、本機に付属されている六角ネジと六角レンチを使用すると簡単に配線する事が可能です。
ワイヤーサイズはAWG6〜AWG18以外は使用できません。

コードの色分けと役割

接続コードの色		名称と働き
黄		●バッテリー電源リード線 常にバッテリー電源が供給されているところ(バッテリーのプラス端子)に確実に接続します。
青／白		●リモート･オン･リード線 連動させる製品(チューナー･カセット･プレーヤー、イコライザーなど)のリモート･オン･リード線に接続します。
黒		●アース･リード線 車体の金属部に確実に接続します。 Point 車体の塗装をはがした箇所にネジ止めします。

入力モード切替スイッチ

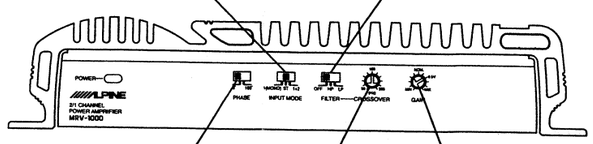
1(MONO) ST 1+2 INPUT MODE

1. ステレオ2チャンネル･モードの時に使用します。
入力PINジャックCH1の信号はスピーカ出力リード端子から出力します。(図−5参照)
2. ブリッジモードの片チャンネル入力時に使用します。
入力PINジャックはCH1のみ使用できます。スピーカ出力リード端子はCH1(＋)とCH2(−)から出力します。(図−7参照)
3. 右チャンネル･左チャンネルの信号をミックスして出力するときに使用します。
入力PINジャックCH1、CH2の信号は、スピーカ出力ターミナルCH1(＋)、CH2(−)からミックスして出力します。(図−6参照)

クロスオーバー･モード切替スイッチ

OFF HP LP FILTER

1. ローパス(サブウーハー)用として使用するとき"LP"にセットします。
スピーカ端子は、ハイカットされた出力となります。(図−5、6、7参照)
2. サブウーハーと組み合わせるフルレンジ･スピーカ／ミッドレンジ･スピーカ駆動用として使用するとき"HP"にセットします。スピーカ端子は、ローカットされた出力となります。(図−5参照)
3. フルレンジ･スピーカによる通常のシステム用として使用するときは"OFF"にセットします。ローカットもハイカットもされない全帯域出力となります。(図−5参照)



図−4

位相切替スイッチ

0° 180° PHASE

180度側にセットすると出力の位相が反転します。
スピーカからの音が聴きとりやすい方にスイッチを切り替えてください。

入力感度調整ボリューム

NOM. 0.5V MIN. MAX. GAIN

出荷時には"0.5V"に設定してあります。
接続する製品の出力に合わせて調整をしてください。
詳しくは、お買い上げ店にご相談ください。

クロスオーバー周波数調整ボリューム

100 50 200 (Hz) CROSSOVER

クロスオーバー･モード切替スイッチをLPまたはHPにセットした時に使用します。
クロスオーバー周波数を50〜200Hzの間で調整することができます。

接続図 ★詳しい接続方法は、販売店またはアルパイン・インフォメーションセンターにお問い合わせください。

図-5 フルレンジ、ツィータ／ミッドレンジ、サブウーハー(ステレオ接続)

使用スピーカ	クロスオーバー・モード切替スイッチ(FILTER)	入力モード切替スイッチ(INPUT MODE)
①フルレンジ	OFF HP LP	1(MONO) ST 1+2 INPUT MODE
②ツィータ／ミッドレンジ	OFF HP LP	
③サブウーハー	OFF HP LP	

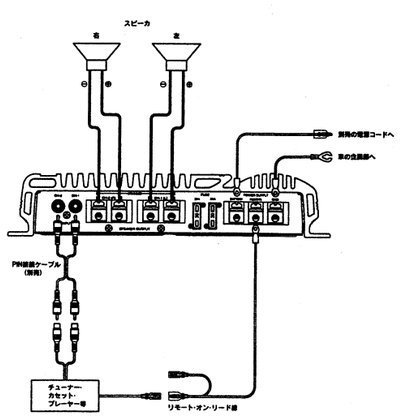


図-6 サブウーハー(ミックス接続)

使用スピーカ	クロスオーバー・モード切替スイッチ(FILTER)	入力モード切替スイッチ(INPUT MODE)
サブウーハー	OFF HP LP	1(MONO) ST 1+2 INPUT MODE

図-7 サブウーハー(ブリッジ接続)

使用スピーカ	クロスオーバー・モード切替スイッチ(FILTER)	入力モード切替スイッチ(INPUT MODE)
サブウーハー	OFF HP LP	1(MONO) ST 1+2 INPUT MODE

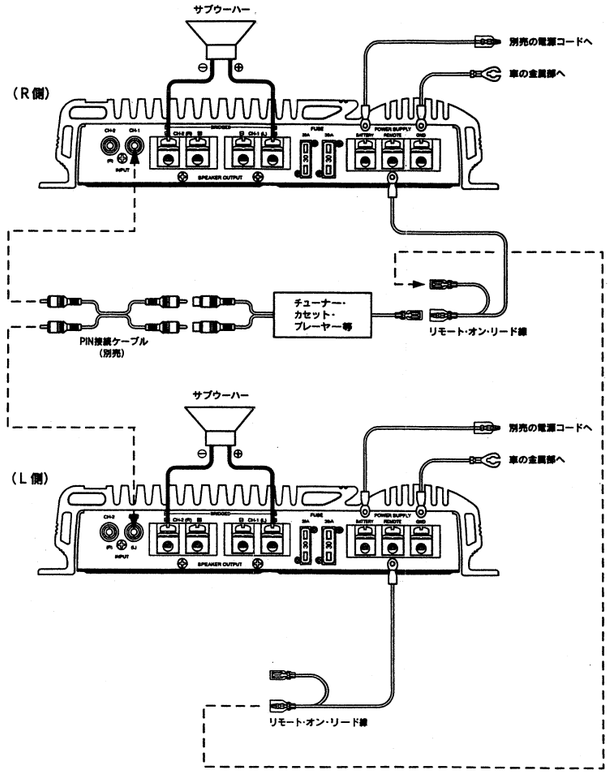
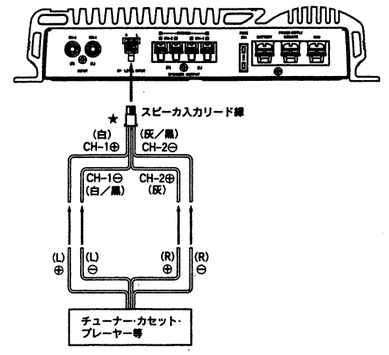


図-8 スピーカ入力リード線接続

※MRV-T300のみ



★接続の際、入力用ピンジャックとスピーカ入力の同時使用はできません。必ずどちらか一方をお使い下さい。

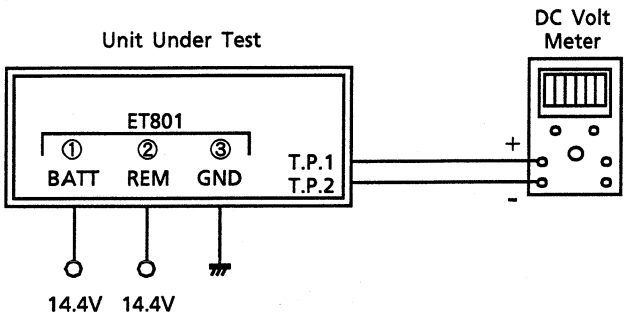
図-9 スピーカ入力リード線ステレオ接続

※MRV-T300のみ

★接続の際、入力用ピンジャックとスピーカ入力の同時使用はできません。必ずどちらか一方をお使い下さい。

Adjustment Procedures

(1) Connections

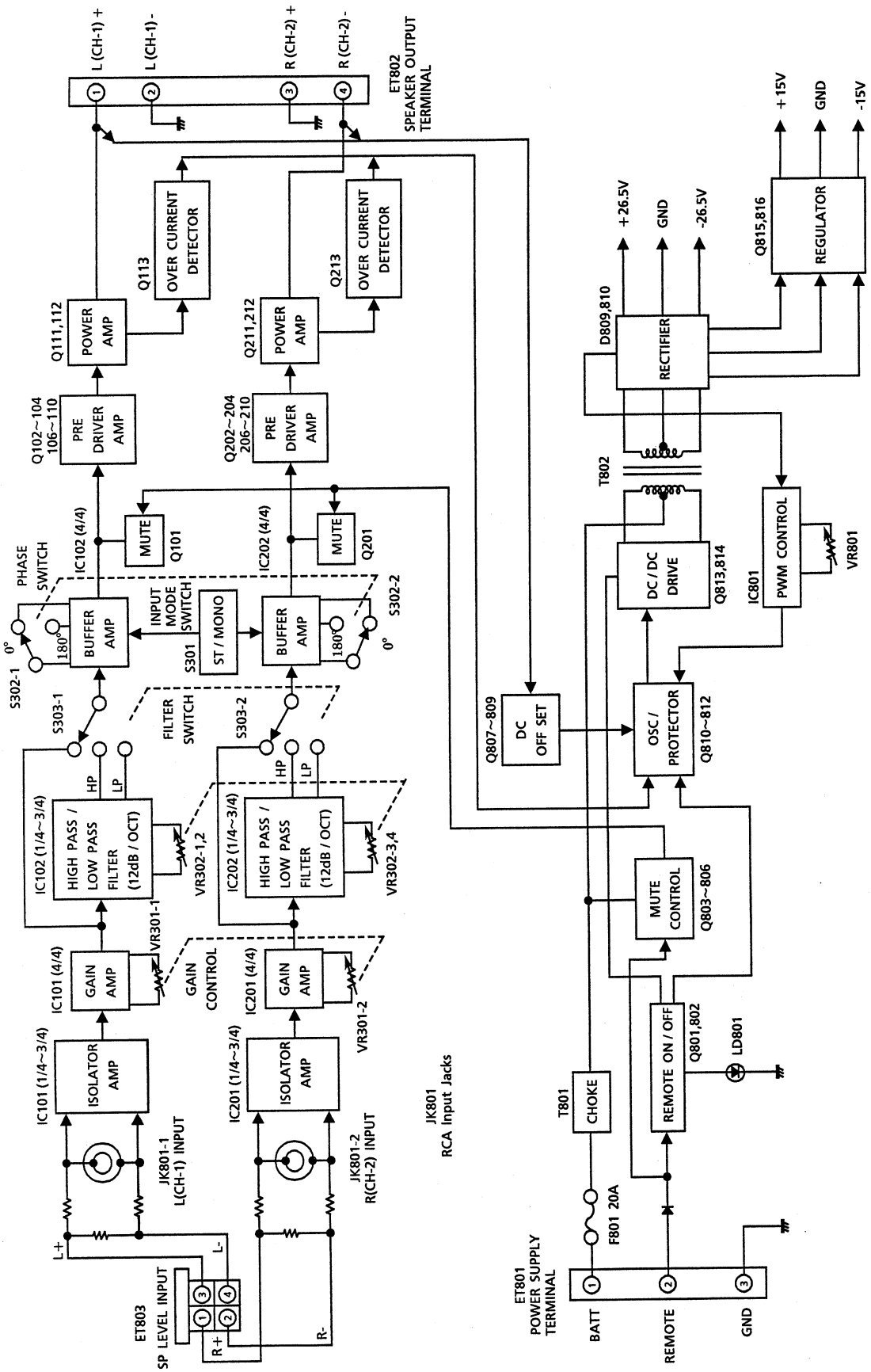


(2) Adjustment Procedures

Description	Test Point	Adjustment
Secondary rectifier Voltage Adjustment 二次側整流電圧調整	T.P.1 T.P.2	Adjust VR801 for 52±0.5V between T.P.1 and T.P.2. T.P.1 , T.P.2 間の電圧が 52±0.5V になる様に VR801 を調整する。

Note : For the Adjustment Parts (VR801) and Test Points,
refer to the Parts Layout on P.C.Boards and Wiring Diagram.
※ テストポイント及び調整部品(VR801)の詳細については、
「Parts Layout on P.C.Boards and Wiring Diagram」を参照願います。

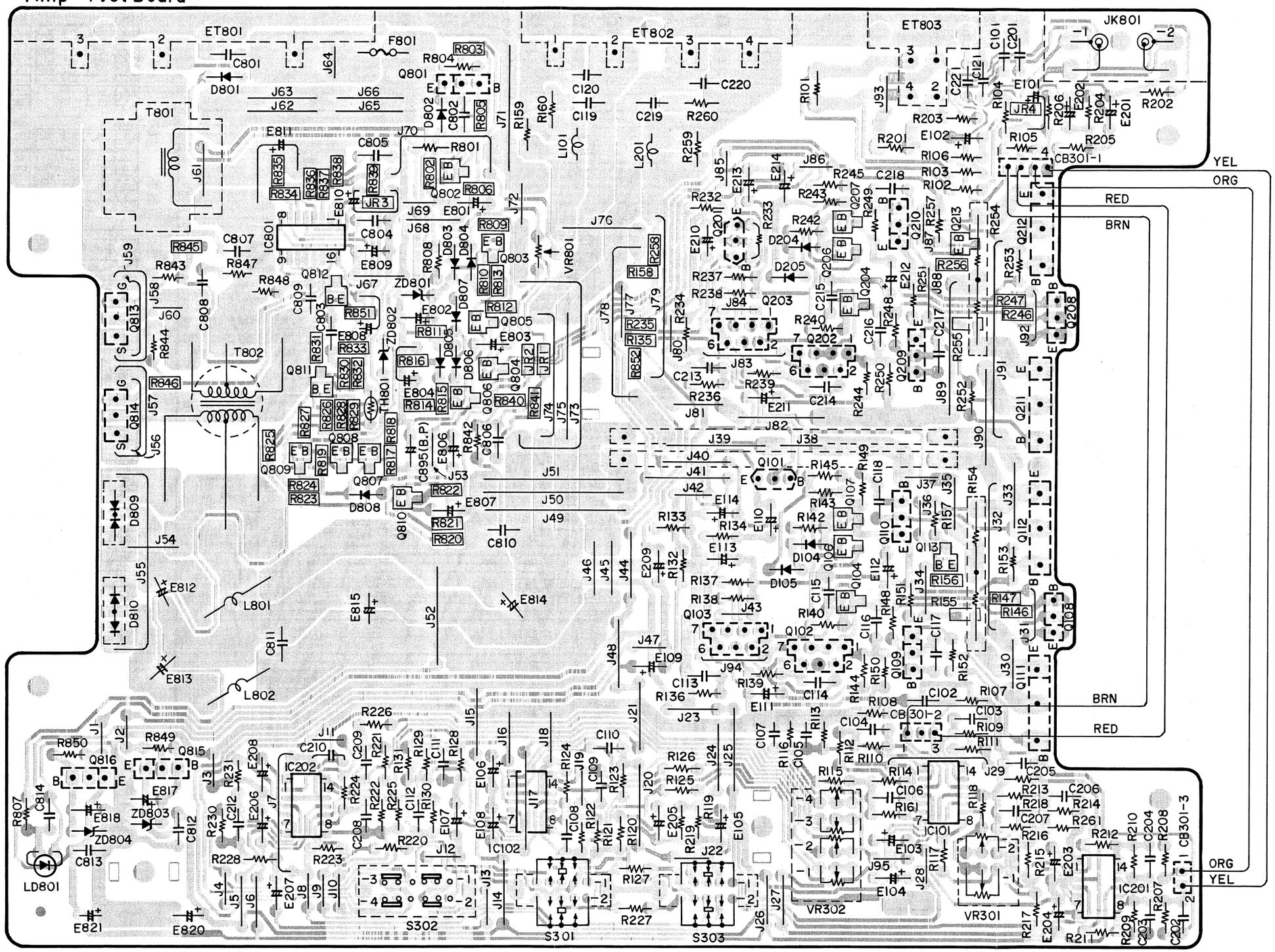
Block Diagram



Parts Layout on P.C.Board and Wiring Diagram

P.C.Board viewed from soldered side.

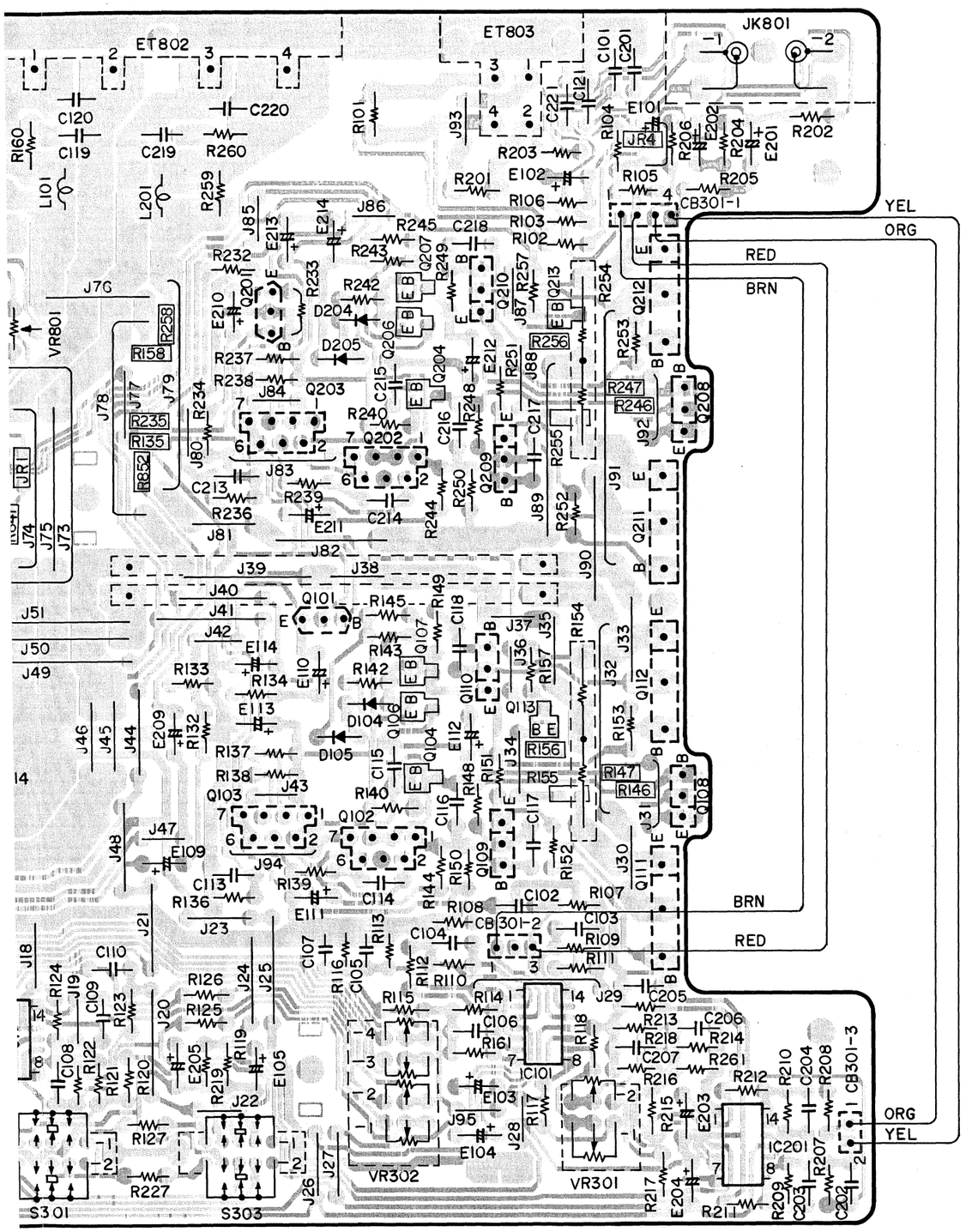
Amp P.C. Board



A | B | C | D | E | F | G | H

— 13 — — 14 —

P.C.Board viewed from soldered side.



Blue Pattern : Foil Side Pattern

Schematic Diagram

IC	IC101(1/4)(2/4) IC201(1/4)(2/4)	IC101(3/4) IC201(3/4)	IC101(4/4) IC201(4/4)	IC102(1/4) IC202(1/4)	IC102(2/4) IC202(2/4)	IC102(3/4) IC202(3/4)	IC102(4/4) IC202(4/4)	IC801
Transistor (Q)	Q801 Q802	Q803	Q804 Q805 Q806	Q807	Q808 Q809	Q810	Q811 Q812	Q201 Q101 Q102 Q103 Q202 Q203 Q104 Q106 Q204 Q206 Q107 Q207 Q108 Q109 Q110 Q208 Q209 Q210 Q813 Q814

Amp P.C.Board

JK801 RCA INPUT JACKS

JK801-1 L(CH-1) INPUT

JK801-2 R(CH-2) INPUT

ET803 SP LEVEL INPUT

ET801 POWER SUPPLY TERMINAL

ISOLATOR AMP

GAIN AMP

HIGH PASS/LOW PASS FILTER (12dB/OCT)

FILTER FREQ CONT

FILTER SW

INPUT MODE SW

BUFFER AMP

PHASE SW

MUTE

Q102~104,106~110 PRE DRIVER AMP

Q202~204,206~210 PRE DRIVER AMP

REMOTE ON/OFF

MUTE CONTROL

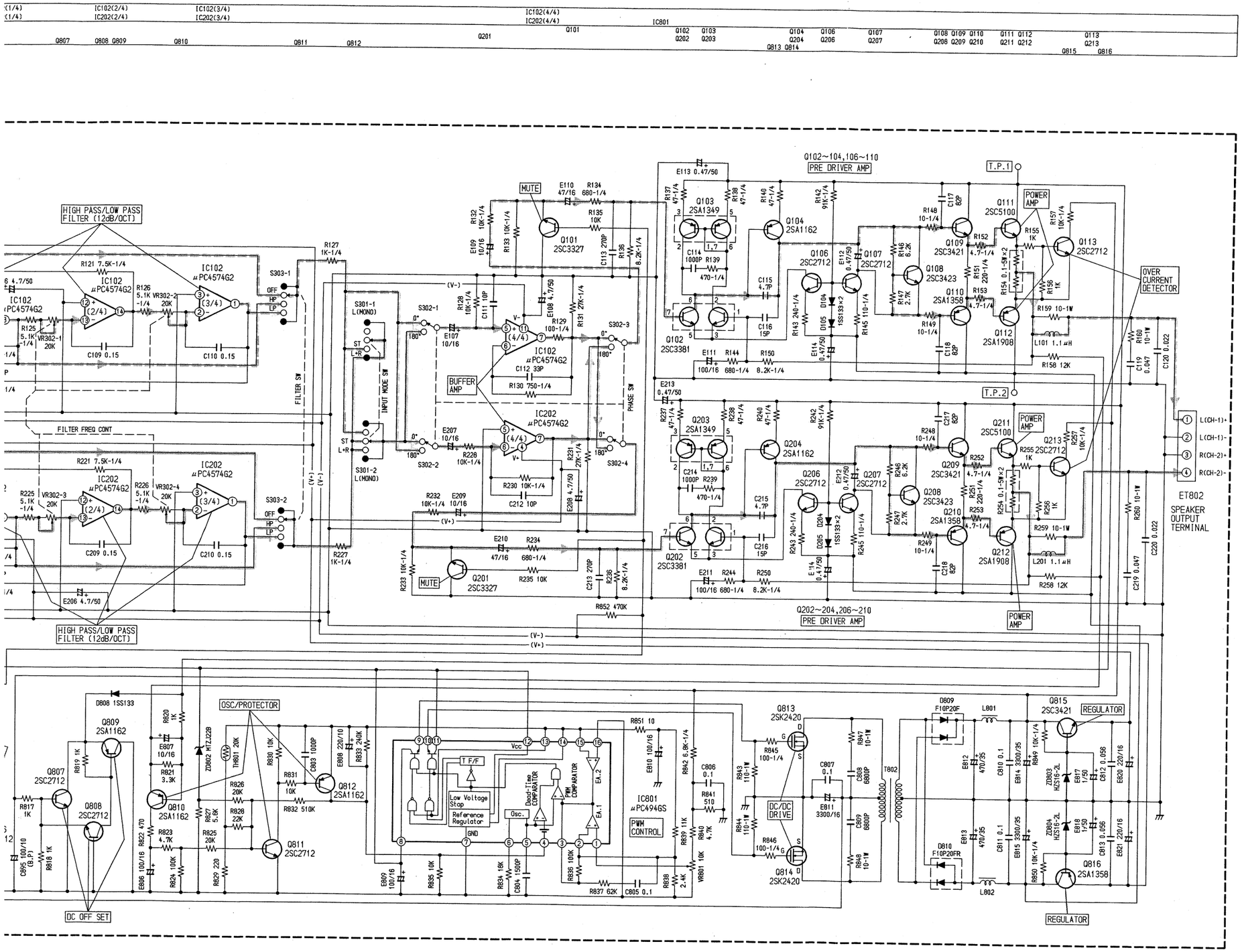
OSC/PROTECTOR

DC OFF SET

DC/DC DRIVE

PWM CONTROL

NOTES:
1. All resistance values are in ohms. K= 1,000
2. All capacitance values are in microfarads. P= 1/1,000,000



IC101

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC102

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC201

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC202

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC801

1	0.96V	9	0.89V
2	0.96V	10	0.89V
3	3.75V	11	14.35V
4	0.2V	12	14.35V
5	1.73V	13	5.1V
6	3.8V	14	5.1V
7	0V	15	5.1V
8	14.35V	16	0V

	E	C	B	MODE
Q101	0V / 0V	0V / 0V	-14.7V / 0.6V	MUTE OFF / ON
Q104	26.4V	1.12V	25.8V	
Q106	-26V	-0.6V	-25.4V	
Q107	-26V	-1.1V	-25.4V	
Q108	-1.1V	1.1V	-0.5V	
Q109	0.55V	26.5V	1.1V	
Q110	-0.56V	-26.5V	-1.1V	
Q111	3mV	26.5V	0.53V	
Q112	-3mV	26.5V	-0.55V	
Q113	0V	26.5V	0V	
Q201	0V / 0V	0V / 0V	-14.7V / 0.6V	MUTE OFF / ON
Q204	26.4V	1.12V	25.8V	
Q206	-26V	-0.6V	-25.4V	
Q207	-26V	-1.1V	-25.4V	
Q208	-1.1V	1.1V	-0.5V	
Q209	0.55V	26.5V	1.1V	
Q210	-0.56V	-26.5V	-1.1V	
Q211	3mV	26.5V	0.53V	
Q212	-3mV	26.5V	-0.55V	
Q213	0V	26.5V	0V	
Q801	14.37V	14.36V	13.66V	
Q802	0V	45mV	2.9V	
Q803	6.61V / 6.62V	13mV / 6.6V	6.55V / 6V	MUTE OFF / ON
Q804	14.37V / 14.4V	14.8V / -0.46V	13.9V / 14.3V	MUTE OFF / ON
Q805	12mV / 6.5V	14.3V / 14.3V	15mV / 6.54V	MUTE OFF / ON
Q806	0V / 0V	12mV / 6.49V	0.56V / -0.74V	MUTE OFF / ON
Q807	0V	26V	0V	
Q808	0V	26V	0V	
Q809	26.1V	0V	26.1V	
Q810	26.5V	0V	26.5V	
Q811	0V	5V	0V	
Q812	5V	0.2V	5V	
Q815	15.4V	26.5V	16V	
Q816	-15.4V	-26.5V	-16V	

	S	D	G
Q813	0V	14.35V	0.9V
Q814	0V	14.35V	0.9V

	1	2	3	4	5	6	7
Q102	26V	25.8V	26.6V	—	26.5V	26V	26V
Q103	0V	26V	-0.6V	—	-0.6V	25.8V	0V
Q202	26V	25.8V	26.6V	—	26.5V	26V	26V
Q203	0V	26V	-0.6V	—	-0.6V	25.8V	0V

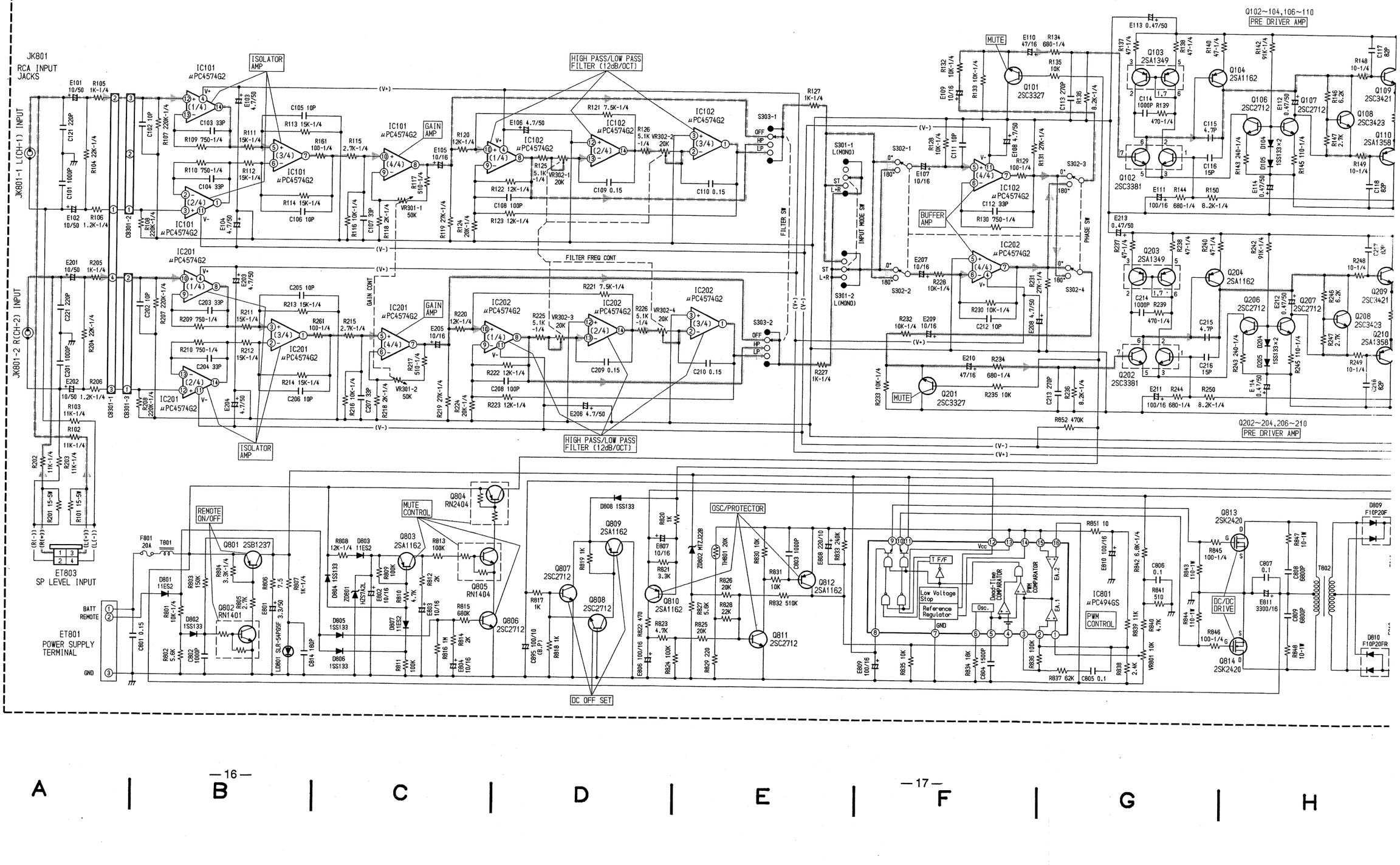
Measuring Conditions

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Meter
3. Measuring Reference Point : Between Ground
4. Measuring Condition : No Signal Input

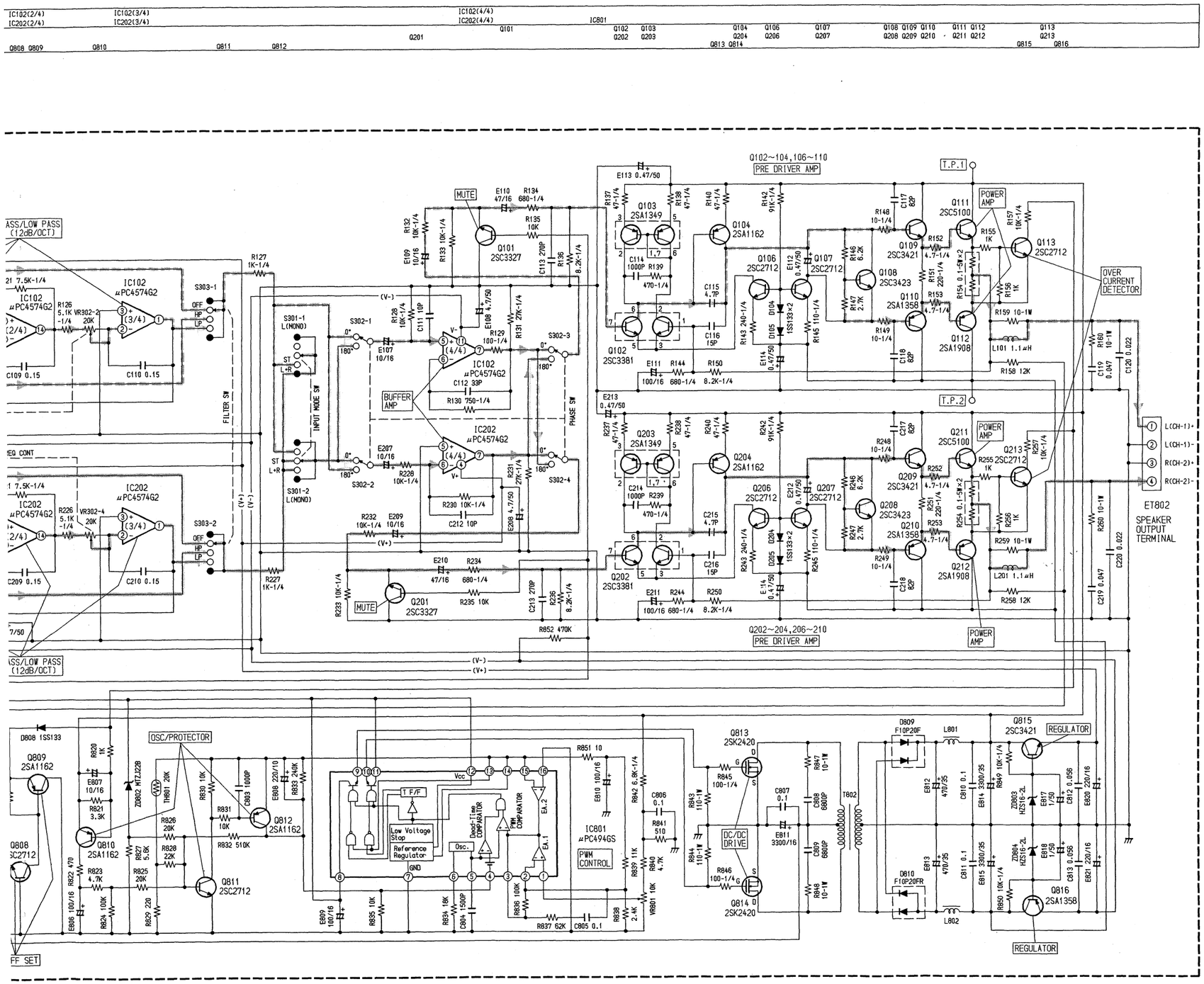
Schematic Diagram

IC	IC101(1/4)(2/4) IC201(1/4)(2/4)	IC101(3/4) IC201(3/4)	IC101(4/4) IC201(4/4)	IC102(1/4) IC202(1/4)	IC102(2/4) IC202(2/4)	IC102(3/4) IC202(3/4)	IC102(4/4) IC202(4/4)	IC801
Transistor (Q)	Q801 Q802	Q803	Q804 Q805 Q806	Q807	Q808 Q809	Q810	Q811 Q812	Q201 Q101 Q102 Q202 Q103 Q203 Q104 Q204 Q813 Q814 Q106 Q206 Q107 Q207 Q108 Q208 Q109 Q209

Amp P.C.Board



NOTES:
1. All resistance values are in ohms. K= 1,000
2. All capacitance values are in microfarads. P= 1/1,000,000



IC101

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC102

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC201

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC202

1	0V	9	0V
2	0V	10	0V
3	0V	11	15.4V
4	-15.4V	12	0V
5	0V	13	0V
6	0V	14	0V
7	0V		
8	0V		

IC801

1	0.96V	9	0.89V
2	0.96V	10	0.89V
3	3.75V	11	14.35V
4	0.2V	12	14.35V
5	1.73V	13	5.1V
6	3.8V	14	5.1V
7	0V	15	5.1V
8	14.35V	16	0V

	E	C	B	MODE
Q101	0V / 0V	0V / 0V	-14.7V / 0.6V	MUTE OFF / ON
Q104	26.4V	1.12V	25.8V	
Q106	-26V	-0.6V	-25.4V	
Q107	-26V	-1.1V	-25.4V	
Q108	-1.1V	1.1V	-0.5V	
Q109	0.55V	26.5V	1.1V	
Q110	-0.56V	-26.5V	-1.1V	
Q111	3mV	26.5V	0.53V	
Q112	-3mV	26.5V	-0.55V	
Q113	0V	26.5V	0V	
Q201	0V / 0V	0V / 0V	-14.7V / 0.6V	MUTE OFF / ON
Q204	26.4V	1.12V	25.8V	
Q206	-26V	-0.6V	-25.4V	
Q207	-26V	-1.1V	-25.4V	
Q208	-1.1V	1.1V	-0.5V	
Q209	0.55V	26.5V	1.1V	
Q210	-0.56V	-26.5V	-1.1V	
Q211	3mV	26.5V	0.53V	
Q212	-3mV	26.5V	-0.55V	
Q213	0V	26.5V	0V	
Q801	14.37V	14.36V	13.66V	
Q802	0V	45mV	2.9V	
Q803	6.61V / 6.62V	13mV / 6.6V	6.55V / 6V	MUTE OFF / ON
Q804	14.37V / 14.4V	14.8V / -0.46V	13.9V / 14.3V	MUTE OFF / ON
Q805	12mV / 6.5V	14.3V / 14.3V	15mV / 6.54V	MUTE OFF / ON
Q806	0V / 0V	12mV / 6.49V	0.56V / -0.74V	MUTE OFF / ON
Q807	0V	26V	0V	
Q808	0V	26V	0V	
Q809	26.1V	0V	26.1V	
Q810	26.5V	0V	26.5V	
Q811	0V	5V	0V	
Q812	5V	0.2V	5V	
Q815	15.4V	26.5V	16V	
Q816	-15.4V	-26.5V	-16V	

	S	D	G
Q813	0V	14.35V	0.9V
Q814	0V	14.35V	0.9V

	1	2	3	4	5	6	7
Q102	26V	25.8V	26.6V	—	26.5V	26V	26V
Q103	0V	26V	-0.6V	—	-0.6V	25.8V	0V
Q202	26V	25.8V	26.6V	—	26.5V	26V	26V
Q203	0V	26V	-0.6V	—	-0.6V	25.8V	0V

Measuring Conditions

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Meter
3. Measuring Reference Point : Between Ground
4. Measuring Condition : No Signal Input

Electrical Parts List

Resistor : Carbon resistors under 1 / 4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μF=microfarads, pF=picofarads

Abbreviations

RES.=	Resistor	CAP.=	Capacitor
C.F.=	Carbon Film	ELY.=	Electrolytic
M.F.=	Metal Film	CER.=	Ceramic
M.O.=	Metal Oxide Film	MYL.=	Mylar
M.P.=	Metal Plate	TAN.=	Tantalum
TR.=	Transistor	POLY.=	Polystyrol
TRANS.=	Transformer	PP.=	Polypropylene
CP.=	Chip	PLT.=	Polyethylene
		PF.=	Polyester Film

AMP P. C. Board

IC's

Symbol No.	Part No.	Description
IC101	51E10409S01	μPC4574G2
IC102	51E10409S01	μPC4574G2
IC201	51E10409S01	μPC4574G2
IC202	51E10409S01	μPC4574G2
IC801	51E11412S01	μPC494GS

Transistors

Symbol No.	Part No.	Description
Q101	48E21466S01	2SC3327
Q102	48E22011S01	2SC3381
Q103	48E22010S01	2SA1349
Q104	48T55491W03	CP., 2SA1162
Q106	48E20148S01	CP., 2SC2712
Q107	48E20148S01	CP., 2SC2712
Q108	48T64376F03	2SC3423
Q109	48T69176F02	2SC3421
Q110	48T70761F01	2SA1358
Q111	48E22012S01	2SC5100
Q112	48E22013S01	2SA1908
Q113	48E20148S01	CP., 2SC2712
Q201	48E21466S01	2SC3327
Q202	48E22011S01	2SC3381
Q203	48E22010S01	2SA1349
Q204	48T55491W03	CP., 2SA1162
Q206	48E20148S01	CP., 2SC2712
Q207	48E20148S01	CP., 2SC2712
Q208	48T64376F03	2SC3423
Q209	48T69176F02	2SC3421
Q210	48T70761F01	2SA1358
Q211	48E22012S01	2SC5100
Q212	48E22013S01	2SA1908
Q213	48E20148S01	CP., 2SC2712
Q801	48E21999S01	2SB1237
Q802	48E20144S01	CP., RN1401
Q803	48T55491W03	CP., 2SA1162
Q804	48E20184S01	CP., RN2404
Q805	48E07111S02	CP., RN1404
Q806	48E20148S01	CP., 2SC2712
Q807	48E20148S01	CP., 2SC2712
Q808	48E20148S01	CP., 2SC2712
Q809	48T55491W03	CP., 2SA1162
Q810	48T55491W03	CP., 2SA1162
Q811	48E20148S01	CP., 2SC2712
Q812	48T55491W03	CP., 2SA1162
Q813	48E22014S01	FET, 2SK2420
Q814	48E22014S01	FET, 2SK2420
Q815	48T69176F02	2SC3421
Q816	48T70761F01	2SA1358

Diodes

Symbol No.	Part No.	Description
D104	48T68829F01	1SS133
D105	48T68829F01	1SS133
D204	48T68829F01	1SS133
D205	48T68829F01	1SS133
D801	48T84052F11	11ES2
D802	48T68829F01	1SS133
D803	48T84052F11	11ES2
D804	48T68829F01	1SS133
D805	48T68829F01	1SS133
D806	48T68829F01	1SS133
D807	48T84052F01	11ES2
D808	48T68829F01	1SS133
D809	48E09190S01	F10P20F
D810	48E09190S02	F10P20FR
ZD801	48T25766W11	Zener, HZS7A2L
ZD802	48T45012W71	Zener, MTZJ22B
ZD803	48T83128F50	Zener, HZS16-2L
ZD804	48T83128F50	Zener, HZS16-2L

Thermistor / LED

Symbol No.	Part No.	Description
TH801	48E11405S01	20K ohm
LD801	65E22015S01	LED, SLR-54PG5F (GRN)

Symbol No.	Part No.	Description
Transformers		
T801	25E11580S01	Choke
T802	25E22004S01	Power
Coils		
L101	24E06338S01	1.1μH
L201	24E06338S01	1.1μH
L801	24E22005S01	Choke
L802	24E22005S01	Choke
Switches		
S301	40E22009S01	Slide, SSSF12 (INPUT MODE)
S302	40E09137S01	Slide, SSSF14 (PHASE)
S303	40E22009S01	Slide, SSSF12 (FILTER)
Capacitors		
C101	08E21991S01	CER., 1000pF
E101	23E21187S01	ELY., 10μF / 50V
C102	08E21992S01	CER., 10pF
E102	23E21187S01	ELY., 10μF / 50V
C103	08E21987S01	CER., 33pF
E103	23E21995S01	ELY., 4.7μF / 50V
C104	08E21987S01	CER., 33pF
E104	23E21995S01	ELY., 4.7μF / 50V
C105	08E21992S01	CER., 10pF
E105	23E20773S01	ELY., 10μF / 16V
C106	08E21992S01	CER., 10pF
E106	23E21995S01	ELY., 4.7μF / 50V
C107	08E21987S01	CER., 33pF
E107	23E20773S01	ELY., 10μF / 16V
C108	21E06640S01	CER., 100pF
E108	23E21995S01	ELY., 4.7μF / 50V
C109	08E09008S09	PF., 0.15μF
E109	23E20773S01	ELY., 10μF / 16V
C110	08E09008S09	PF., 0.15μF
E110	23E21149S01	ELY., 47μF / 16V
C111	08E21992S01	CER., 10pF
E111	23E20774S01	ELY., 100μF / 16V
C112	08E21987S01	CER., 33pF
E112	23E21460S01	ELY., 0.47μF / 50V
C113	08E04860S02	CER., 270pF

Symbol No.	Part No.	Description
E113	23E21460S01	ELY., 0.47μF / 50V
C114	08E21991S01	CER., 1000pF
E114	23E21460S01	ELY., 0.47μF / 50V
C115	08E21993S01	CER., 4.7pF
C116	21E07286S03	CER., 15pF
C117	08E21989S01	CER., 82pF
C118	08E21989S01	CER., 82pF
C119	08E09008S14	PF., 0.047μF
C120	08E09151S03	PF., 0.022μF
C121	08E21463S01	CER., 220pF
C201	08E21991S01	CER., 1000pF
E201	23E21187S01	ELY., 10μF / 50V
C202	08E21992S01	CER., 10pF
E202	23E21187S01	ELY., 10μF / 50V
C203	08E21987S01	CER., 33pF
E203	23E21995S01	ELY., 4.7μF / 50V
C204	08E21987S01	CER., 33pF
E204	23E21995S01	ELY., 4.7μF / 50V
C205	08E21992S01	CER., 10pF
E205	23E20773S01	ELY., 10μF / 16V
C206	08E21992S01	CER., 10pF
E206	23E21995S01	ELY., 4.7μF / 50V
C207	08E21987S01	CER., 33pF
E207	23E20773S01	ELY., 10μF / 16V
C208	21E06640S01	CER., 100pF
E208	23E21995S01	ELY., 4.7μF / 50V
C209	08E09008S09	PF., 0.15μF
E209	23E20773S01	ELY., 10μF / 16V
C210	08E09008S09	PF., 0.15μF
E210	23E21149S01	ELY., 47μF / 16V
E211	23E20774S01	ELY., 100μF / 16V
C212	08E21992S01	CER., 10pF
E212	23E21460S01	ELY., 0.47μF / 50V
C213	08E04860S02	CER., 270pF
E213	23E21460S01	ELY., 0.47μF / 50V
C214	08E21991S01	CER., 1000pF
E214	23E21460S01	ELY., 0.47μF / 50V
C215	08E21993S01	CER., 4.7pF
C216	21E07286S03	CER., 15pF
C217	08E21989S01	CER., 82pF
C218	08E21989S01	CER., 82pF
C219	08E09008S14	PF., 0.047μF
C220	08E09151S03	PF., 0.022μF
C221	08E21463S01	CER., 220pF
C801	08E09008S09	PF., 0.15μF
E801	23E21994S01	ELY., 3.3μF / 50V
C802	08E21991S01	CER., 1000pF
E802	23E20773S01	ELY., 10μF / 16V
C803	08E21991S01	CER., 1000pF
E803	23E20773S01	ELY., 10μF / 16V
C804	08E20778S01	PF., 1500pF

Symbol No.	Part No.	Description
E804	23E20773S01	ELY., 10μF / 16V
C805	08E09008S06	PF., 0.1μF
C806	08E09008S06	PF., 0.1μF
E806	23E20774S01	ELY., 100μF / 16V
C807	08E09008S06	PF., 0.1μF
E807	23E20773S01	ELY., 10μF / 16V
C808	08E09151S07	PF., 6800pF
E808	23E20800S01	ELY., 220μF / 10V
C809	08E09151S07	PF., 6800pF
E809	23E20774S01	ELY., 100μF / 16V
C810	08E09008S06	PF., 0.1μF
E810	23E20774S01	ELY., 100μF / 16V
C811	08E09008S06	PF., 0.1μF
E811	23E22001S01	ELY., 3300μF / 16V
C812	08E09008S01	PF., 0.056μF
E812	23E22003S01	ELY., 470μF / 35V
C813	08E09008S01	PF., 0.056μF
E813	23E22003S01	ELY., 470μF / 35V
C814	08E21990S01	CER., 180pF
E814	23E22002S01	ELY., 3300μF / 35V
E815	23E22002S01	ELY., 3300μF / 35V
E817	23E20776S01	ELY., 1μF / 50V
E818	23E20776S01	ELY., 1μF / 50V
E820	23E21996S01	ELY., 220μF / 16V
E821	23E21996S01	ELY., 220μF / 16V
C895	23E21997S01	ELY., (B.P) 100μF / 10V

Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)

R101	06E22018S01	Plate, 15 ohm 5W
R111	06E21984S01	M.F., 15K ohm 1/4W
R112	06E21984S01	M.F., 15K ohm 1/4W
R113	06E21984S01	M.F., 15K ohm 1/4W
R114	06E21984S01	M.F., 15K ohm 1/4W
R135	06E08433S10	10K ohm
R146	06E21983S01	6.2K ohm
R147	06E21982S01	2.7K ohm
R154	17E09460S01	Plate, 0.1 ohm 5W×2
R155	06E08433S03	1K ohm
R156	06E08433S03	1K ohm
R158	06E08433S45	12K ohm
R159	06E21985S01	M.F., 10 ohm 1W
R160	06E21985S01	M.F., 10 ohm 1W
R201	06E22018S01	Plate, 15 ohm 5W
R211	06E21984S01	M.F., 15K ohm 1/4W
R212	06E21984S01	M.F., 15K ohm 1/4W
R213	06E21984S01	M.F., 15K ohm 1/4W
R214	06E21984S01	M.F., 15K ohm 1/4W
R235	06E08433S10	10K ohm

Symbol No.	Part No.	Description
R246	06E21983S01	6.2K ohm
R247	06E21982S01	2.7K ohm
R254	17E09460S01	Plate, 0.1 ohm 5W×2
R255	06E08433S03	1K ohm
R256	06E08433S03	1K ohm
R258	06E08433S45	12K ohm
R259	06E21985S01	M.F., 10 ohm 1W
R260	06E21985S01	M.F., 10 ohm 1W
R802	06E08433S25	5.6K ohm
R803	06E08433S14	150K ohm
R805	06E08433S06	2.7K ohm
R806	06E21981S01	7.5 ohm
R809	06E08433S29	100K ohm
R810	06E08433S07	4.7K ohm
R811	06E08433S29	100K ohm
R812	06E08433S44	2K ohm
R813	06E08433S29	100K ohm
R814	06E08433S44	2K ohm
R815	06E08433S55	680K ohm
R816	06E20117S01	1M ohm
R817	06E08433S03	1K ohm
R818	06E08433S03	1K ohm
R819	06E08433S03	1K ohm
R820	06E08433S03	1K ohm
R821	06E08433S21	3.3K ohm
R822	06E20498S01	470 ohm
R823	06E08433S07	4.7K ohm
R824	06E08433S29	100K ohm
R825	06E08433S65	20K ohm
R826	06E08433S65	20K ohm
R827	06E08433S25	5.6K ohm
R828	06E08433S12	22K ohm
R829	06E08433S26	220 ohm
R830	06E08433S10	10K ohm
R831	06E08433S10	10K ohm
R832	06E08433S74	510K ohm
R833	06E21980S01	240K ohm
R834	06E08433S11	18K ohm
R835	06E08433S10	10K ohm
R836	06E08433S29	100K ohm
R837	06E08433S73	62K ohm
R838	06E08433S16	2.4K ohm
R839	06E08433S51	11K ohm
R840	06E08433S07	4.7K ohm
R841	06E08433S69	510 ohm
R843	06E21986S01	M.F., 110 ohm 1W
R844	06E21986S01	M.F., 110 ohm 1W
R845	06E07326S04	100 ohm 1/4W
R846	06E07326S04	100 ohm 1/4W
R847	06E21985S01	M.F., 10 ohm 1W
R848	06E21985S01	M.F., 10 ohm 1W
R851	06E08433S01	10 ohm

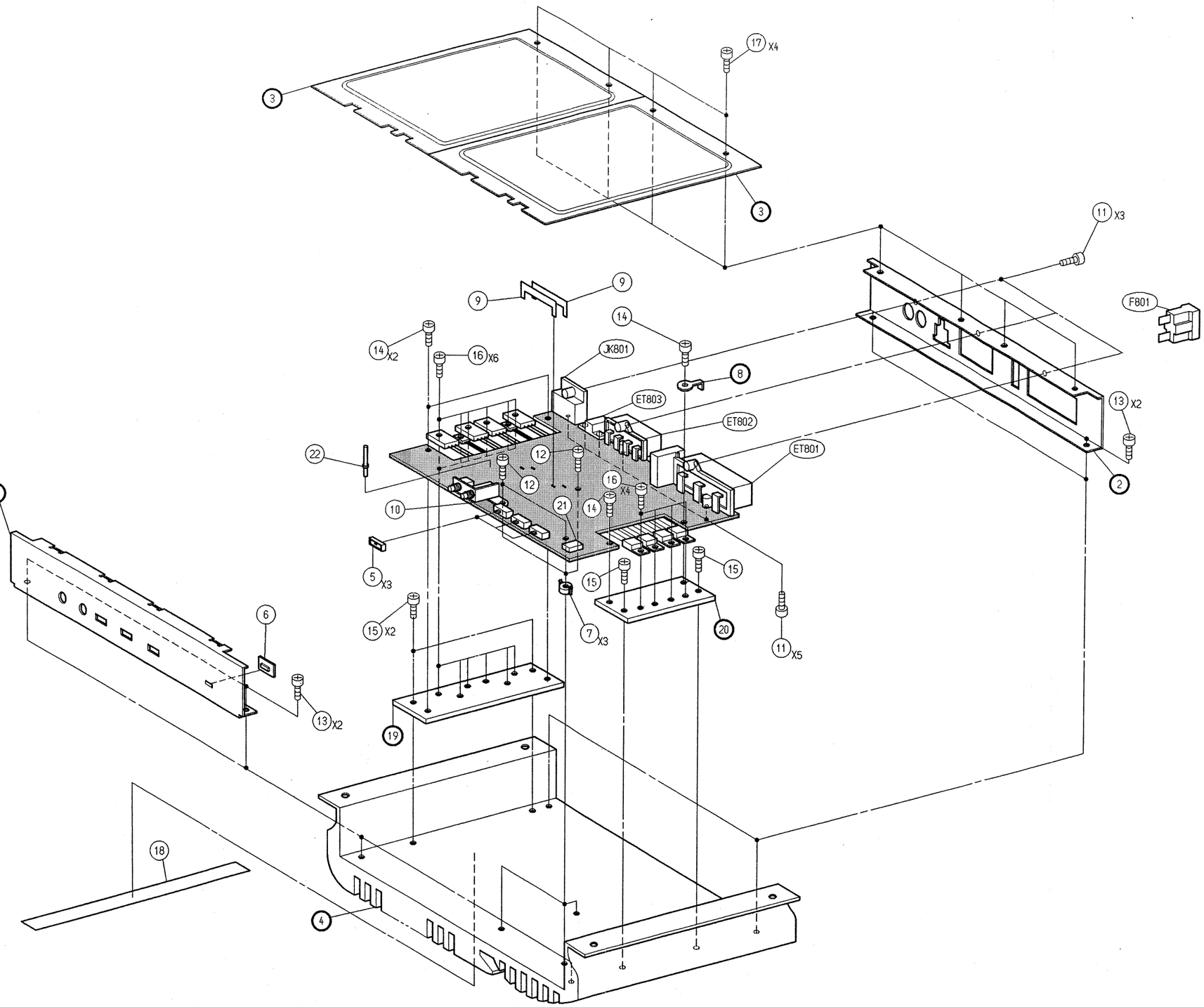
Symbol No.	Part No.	Description
R852	06E08433S43	470K ohm
VR301	18E22017S01	Volume, 50K ohm×2 (GAIN)
VR302	18E22016S01	Volume, 20K ohm×4 (FILTER FREQUENCY)
VR801	18E21381S01	Variable, 10K ohm
Miscellaneous		
ET801	29T00471K01	Power Supply Terminal
ET802	01E22006S01	Speaker Output Terminal
ET803	09E08839S01	SP Level Input
F801	65S58596F06	Fuse, Auto 20A (For Battery Line)
JK801	01E22007S01	RCA Input Jacks

Cabinet Assembly Parts List

Note : No parts number on parts list are not supplied.

Symbol No.	Index	Part No.	Description
5	3-C	15E21973S01	Cover, Switch
6	4-C	61E22364S01	Lens, LED
7	4-D	43E21451S01	Support P.C.Board
9		07E11583S01	Bus, Bar (F)
10	3-C	07E22365S01	Bracket, Volume
11		03E11616S01	Screw, Pan(M3×10)
12	3-D	03E07234S02	Screw, Bind(M3×12)
13		03E22345S01	Screw, Bind(M3×5)
14		03E08429S02	Screw, Bind(M3×6)
15		03E06967S01	Screw, Bind(M3×10)
16		03E22346S01	Screw, W/Double Washer (M3×8.5)
17	1-E	03E22347S01	Screw, Special (M3×5)
18	5-B	45E22366S01	Name Plate
21	3-D	43E21974S01	Spacer
22	3-C	46E22367S01	Pin, Lead

Exploded View (Cabinet)



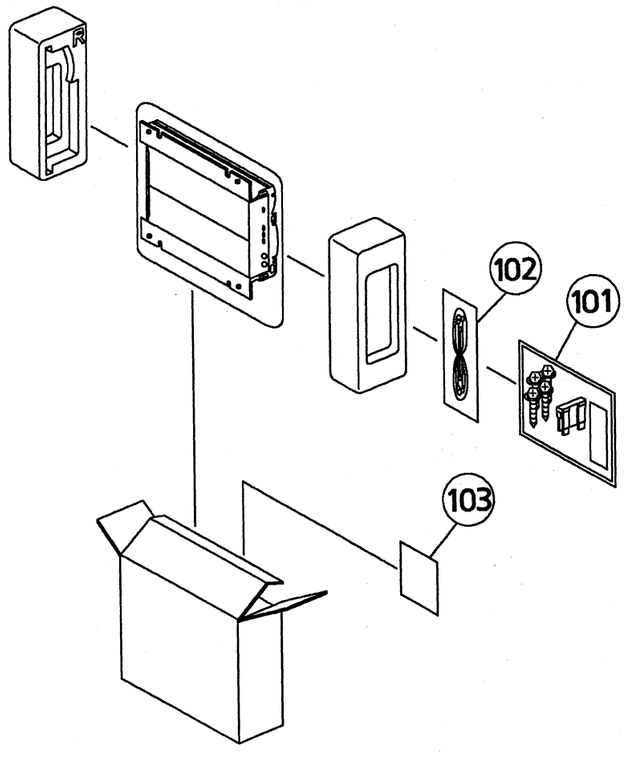
Packing Assembly Parts List

Symbol No.		Part No.	Description
	101-1	03E22368S01	Screw, Tapping (M4×14)
	101-2	15A81064F01	Housing, Rubber (A)
	101-3	65S58596F06	Fuse, Auto 20A
	102-1	01E21977S01	Assy., SP. Input Wire
△	102-2	01E21979S01	Assy., Power Supply Wire
□	102-2	01E21979S01	Assy., Power Supply Wire
△	102-3	01E21976S01	Assy., Remote Wire
□	102-3	01E21976S01	Assy., Remote Wire
□	102-4	01E21978S01	Assy., Speaker Wire
○	103-1	68P61487W51	Owner's Manual
△	103-1	68P61487W51	Owner's Manual
□	103-1	68P61487W50	Owner's Manual
△	103-2	68P61487W52	Owner's Manual (I / G / S)

Symbol No.	Part No.	Description

Notes : ○ : For North American Model Only,
□ : For Japanese Model Only,
△ : For General Foreign Model Only,
Others : Common.

Packing Method View



MEMO